

**Identifying Health Education Competencies for Primary Health  
Care Nurses in Saudi Arabia: A Delphi Consensus Study**

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## List of abbreviations

ANA	American Nurses Association
APHA	American Public Health Association
APNA	Australian Primary Health Care Nurses Association
BSN	Bachelor of Science in Nursing
CDSI	Central Department of Statistics and Information
CNA	Canadian Nurses Association
CVD	Cardiovascular disease
DM	Diabetes Mellitus
DN	District Nurse
DOH	Department of Health
DTP	Dementia Training Programme
G6PD	Glucose-6-phosphate Dehydrogenase Deficiency
GP	General Practitioner
HBM	Health-belief model
HCPRDU	Health Care Practice Research and Development Unit
heiQ	The Health Education Impact Questionnaire
HF	Heart Failure
HPM	Health Promotion Model
HPP	health-promotion practice
HV	Health Visitor
ICN	International Council of Nurses
ICU	Intensive Care Unit
IDF	International Diabetes Federation
IT	Information Technology
JCAHO	Joint Commission on Accreditation of Healthcare Organisations
KSA	knowledge, skills and attitudes
M	Mean

MCH	Maternal and Child Health
MOH	Ministry of Health
MSK	Musculoskeletal
NGT	Nominal group technique
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NMC	Nursing and Midwifery Council
OED	Oxford English Dictionary
PHC	Primary Health Care
PHCCs	Primary Health Care Centres
PHN	public-health nursing
PN	Practice Nurse
QSEN	Quality and Safety Education for Nurses
RAND	Research and Development
S.A.	Saudi Arabia
SPSS	Statistical Package for the Social Sciences
UK	United Kingdom
US	United States
WHO	World Health Organisation

## Dedication

*By the grace and mercy of God, I dedicate my thesis to my caring parents, Saleh and Naema, for inspiring me throughout my life. I appreciate all their support, and motivations. Their prayers and love lead me to complete this thesis. I appreciate all their efforts, which made me who I am.*

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## **Abstract**

### **Research Aim**

The primary aim of this Saudi-based study is to identify health-education competencies (knowledge, skills & attitudes) for Primary Health Care (PHC) nurses. Although the Saudi Ministry of Health (MOH) has highlighted the importance of health education provided in PHC by nurses, there have been no studies into the required competencies in the Saudi context.

### **Methods**

The Delphi technique was employed with a sample of sixty PHC nurses who matched the study's inclusion criteria and they took part in a three-round questionnaire. A consensus criterion of 60 per cent was adopted for the study. The first round asked participants' opinions about what items should be included within health education competencies for PHC nurses by selecting (*Yes, No, Uncertain*). In the second round, participants were asked to rank the competencies on which there had been no initial consensus, using a five-point Likert scale. In the final round, participants selected agree or disagree for each of the remaining competencies. Following the Delphi technique an interactive workshop was undertaken with primary health care nurses and service users, to consider the next steps and practical piloting and testing of the competencies.

### **Principal Findings**

The expert Delphi panellists eventually reached consensus on 45 of the 48 competencies for PHC nurses to engage in health-education practice. These competencies were classified into three domains: knowledge (22), skills (10) and attitudes (13). Three competencies related to knowledge did not reach consensus in the three rounds. The main outcomes of the interactive workshop suggest that service users would welcome the introduction of technology within the delivery of health education, and the PHC nurses confirmed the need for more training courses in order to improve their practice of health education.

### **Importance and Relevance**

This is the first study to identify health-education competencies for PHC nurses in S.A. The results from this study represent a contribution to knowledge in a PHC setting and they can assist the MOH by being an initial step on the road to developing a national competency and curriculum framework for PHC nurses' practice. Also, it is the first study to involve service users.

## **Introduction**

In recent years, the contribution and support that nurses are making to the promotion of health has been more visible. The World Health Organisation's (WHO, 1978) Alma Ata Declaration called for a re-orientation of health services to focus on primary health care and this was reinforced in the Ottawa Charter (WHO, 1986). More recently, the Munich Declaration (WHO, 2000) recognized that actions need to be increased to enhance the roles of nurses and midwives in public health, health promotion and community development. This is especially important in the global context as developed countries experience challenges with diabetes, cardiovascular disease, bronchial asthma and cancer diseases. In Saudi Arabia, there has been a clear development of the health system including primary health care services. However, this has not been matched by an increase in evidence regarding the competencies of PHC nurses to engage in health education within their setting. Saudi literature states that health education within PHC will improve the population's health outcomes and decrease the incidence of communicable and chronic diseases (Amin et al., 2009; Al-Eisa & Al-Sobayel, 2012; Yousuf et al., 2012). Almalki et al. (2011) in their investigation of nursing education in the Saudi PHC setting have also stressed the importance of furthering nursing education to enhance health education. That nurses are well placed to provide health education effectively to clients is one of the main findings of their study.

From my own experience as a Lecturer in Community Nursing (University of Dammam) and a former staff nurse, I know that community nursing covers all health aspects within a community; it also provides solutions and preventable measures towards health and social issues. In my work as an academic, I accompanied the students in their practical rotations into the primary health care centres and gained an appreciation of the importance of these rotations for students to gain experience of the societal, cultural and other factors influencing health. This motivated me to understand further what can be done by nurses to help educate their patients. This research study closely examines the knowledge, skills, and attitudes of PHC nurses regarding health education in S.A. The aim is to identify competencies to underpin the primary health care nurse's role as a health educator in Saudi Arabia. I chose this topic because nurses can have an immense influence upon the health and wellbeing of patients, and clients. By proactively improving health, nurses have the potential, in time, to minimise the longer term effects of health breakdown. On a personal level, when studying

my MSc in Community and Primary healthcare, I came to understand the need for research studies related to primary health care and health education, not only due to the influence which nurses can have, but also because of the lack of research into the health education competencies of PHC nurses.

## **Significance of the research**

A number of studies have considered the value and importance of health education in regard to the position of patients and clients and how their condition can be enhanced, and these will be considered within the detailed literature review (Chapter Three) (Al-Eisa & Al-Sobayel, 2012; Al-Shahrani & Al-Khaldi, 2011; Amin et al., 2009; Bakarman & Ahmed, 2003; Jahan et al., 2006; Midhet & Sharaf, 2011). The present study considers PHC nurses' attitude, knowledge and skills, which are recognised as critical in terms of providing health education to clients. The results garnered through the use of the Delphi approach have the potential to further contribute to knowledge, enabling further nursing education and nursing practice planning centred on addressing the knowledge, skills, and attitude requirements of PHC nurses in the context of health education. This can help to improve individual and organisation performances, along with the dedication of nurses, and the working environment overall. This research will add to the extant body of research knowledge through the collection of original data regarding the health education competencies of PHC nurses in SA. The interactive workshop employed following the Delphi technique is considered to be an innovative development, bringing PHC nurses and service users together for discussion and planning. The aim was to consider the practical application of the competencies needed for PHC nurses regarding health education, and there was an opportunity for service users to be involved in decision making to achieve these aims.

## **Statement of the problem**

There is currently a lack of training programmes for PHC nurses, which impacts on their competency to engage in health education in PHC in S.A. (Almalki et al., 2011). Indeed, if

PHC nurses are to promote early detection and prevention of illness, there is clearly a need for their continued education (Yousuf et al., 2012). Competency definitions include knowledge, skills, and attitudes (Pérez & Luquis, 2013). However, there is a lack of knowledge and skills relating to a number of health problems among primary healthcare nurses, which influences their ability to engage in health education. As such, it has been suggested that PHC nurses are poor sources of health information (Rasheed & Al-Sowielem, 2003). This is clearly problematic in terms of improving public health. In S.A., the Saudi Nursing Policy and Procedure Manual states that there is a need for competent nurses to deliver health education in PHC (MOH, 2011). Also, the new Saudi Strategic Plan for Primary Healthcare Nursing (MOH, 2012) strongly recommends that primary healthcare nurses, including Saudi and expatriate nurses must be competent in all nursing care practice including health education.

### **Research Aim**

To identify the competencies that underpin the primary health care nurse's role as a health educator in Saudi Arabia.

### **Objectives:**

1. To identify the views of primary healthcare nurses as to the competencies (knowledge, skills and attitudes) required to engage in health education within a primary healthcare setting.
2. To determine whether consensus on the health education competencies required by nurses within a primary healthcare setting can be reached by engaging expert primary healthcare nurses in a formal consensus exercise (i.e. by using the Delphi technique).
3. To engage service users, nurse managers and PHC nurses in a workshop that will present the competencies required, develop an action plan and make recommendations for piloting and evaluating during the post-doctoral period.



## **The structure of the thesis**

Chapter One provides an overview of the research context, which is Saudi Arabia. It contains details regarding the demographic data for the country as well as economic and social life in S.A., including urbanisation. In addition, there is an explanation of the Saudi health care system including the PHC setting. The chapter explores nursing from an Islamic perspective, along with nursing education and employment. It is important for the reader to get an overview of the research context in order to facilitate understanding of the research process.

Chapter Two details the concepts underpinning the study: health, health promotion, health education, and PHC, and explains these concepts. There is a review of the models of health promotion and health education used within nursing practice. In addition, the chapter explores the relevant processes and approaches to health education within the nursing context. The chapter concludes by reviewing PHC policies, both internationally and locally within the SA context.

Chapter Three provides a critical appraisal of the literature pertaining to PHC and the nurse's role as a health educator. The reviewed literature draws upon global and local contexts, discussing literature derived from a western perspective of health education prior to discussion of the S.A. PHC setting and health education. Key studies are used to compare and contrast the current evidence where applicable, to highlight the contemporary evidence base and to explain the gaps in knowledge, which this study seeks to address. The chapter presents the search process, search strategy and synthesis table summarising the papers retained within the literature review for the two parts of research. Attention is drawn to the emergent themes from the literature tells us, and the chapter concludes by explaining the contribution of the literature to the present study.

Chapter Four provides an analysis of concepts related to competency and competencies. In addition, the chapter discusses contemporary literature regarding nursing competencies and their assessment, and contains examples of competency frameworks currently employed within nursing. Finally, chapter four presents the educational philosophy regarding competencies used to underpin the present study, along with the framework for the research.

Chapter Five details the design and methods used for this study, which employs Delphi technique. The philosophical aspects of the research paradigms are also considered. This chapter explains the research methodology in general: quantitative, qualitative, and mixed methods. The processes of data collection are also explained in detail, which involve ethical approval, designing of the data collection tool, and validity and reliability issues.

Chapter Six presents the data analysis and results for the three rounds of Delphi using Statistical Package for the Social Sciences (SPSS) tests. This chapter starts with the demographical data for the participants. After that, each round of the Delphi technique is presented with items that reached consensus and items that did not reach consensus. There is a summary for the final results, which present the health education competencies for PHC nurses.

Chapter Seven discusses the workshop which was conducted after the Delphi technique. This chapter starts with an overview of the workshop and its purpose. Service users involvement is explained in details, as well as the objectives of the workshop. This chapter explains the programme and the process of the workshop. The outcomes of each participant group within the workshop are explained, focusing upon the three main sections of the questionnaire, which are: knowledge, skills, and attitudes.

Chapter Eight offers a discussion of the results with attention to the literature and the Saudi context. This chapter explains the discussion for each round of the Delphi technique including items that reached consensus and items that did not reach consensus. Also, the outcomes from the workshop are explained. The chapter ends with a summary discussion for the three rounds.

Chapter Nine is the concluding chapter of this thesis. It presents the research contribution to the existing knowledge, and limitations of the research. Also, it details the recommendations from the research and an action plan to enable piloting and implementation of the competencies. This chapter provides some recommendation for nurses as staff and managers, and further research in this area, before offering a reflection on the whole of the research study.

## **Chapter One: The Research Context: Saudi Arabia**

### **Introduction**

This chapter explains the context of the study to enable the reader to fully understand the original research that follows. The chapter is divided into four main sections. First, the chapter will give an overall review of S.A., and its position in the global context, including its educational, socio-economic status. Secondly, it outlines the religious and cultural context. This is followed by an overview of the S.A. health system, the prevalence of diseases, and the PHC setting. Lastly, there is a section that describes the development of nursing within S.A. through discussion of nursing in Islam, the historical background to nursing education, and the development of university nursing education in the country.

### **Saudi Arabia and its position in the global context**

Officially referred to as the Kingdom of Saudi Arabia, S.A. is second in size only to Algeria in North Africa among the Arab states. In terms of geographical location, S.A. comprises the majority of the Arabian Peninsula, between the Persian Gulf and the Red Sea (See Figure 1, below). To the north lie the states of Jordan, Iraq and Kuwait, with Yemen and Oman situated to the south. The states of Bahrain, Qatar and the United Arab Emirates (U.A.E) are to the east (World Population Review, 2016).

S.A. is separated into different regions, known as governorates, each of which is administered by a Governor or Ameer. The origins of the term “Ameer” can be found in the history of Islam; the title has been bestowed on provincial rulers throughout the Arab world. In total there are 13 regions, namely: Al-Riyadh, Makkah Al-Mukarramah, Al-Madinah Al-Munawarah, Aseer, Eastern Region, Hail, Northern Boundaries, Al-Qassim, Najran, Al-Baha, Jazan, Tabouk and Al-Jouf.

The eastern part of S.A., where the research took place, is called “the Eastern Region”, and this extends all along the Arabian Gulf, which also constitutes a vast section of the Empty Quarter, locally known as “Al-Rub'a al Khali”. Overall, the Eastern Region comprises ten individual towns, and the most important and prosperous of these are: Al-Khubar, Al-Ahsa, Al-Jubail, Hafr Al-Batin and Al-Qateef, with the capital of the region being known as Al-Dammam (Royal Embassy of Saudi Arabia/ Discover Saudi Arabia, 2007).



legislation to help curb this population boom. By the millennium, the population had grown by 24.2 per cent, reaching 20,045,000, and increasing to 29,195,895 by 2014, which is nearly eight times more than it was just half a century before (World Population Review, 2016).

Recent statistics highlight that the migration phenomenon in S.A. is highly irregular. It was documented by De Bel-Air (2014) that, by mid-2013, immigrants comprised 32 per cent of S.A.'s total population, and there had been a significant increase in the numbers arriving from Southern Asia. In total, this group accounted for 56 per cent of individuals in employment in the country, and 89 per cent of the private sector workforce were migrant workers.

Having highlighted the geographical location and population of S.A., including migrant workers, the next section will discuss the education system in S.A. which influences both Saudi people and developments in several sectors of the country, including healthcare.

### **Education system in Saudi Arabia**

The government of S.A. has a keen focus on education in order to prepare the new generation to support growth in the country. Indeed, education consumes 25 per cent of the annual government budget (Al-Mousa, 2010), though it has not always been this way; initially, education was only provided to those living in the major cities across the country. Expansion of the public education system began in 1953, with more schools opening, and the 12-year education system started in 1958, with six years of elementary, three years of intermediate and three years of secondary school, followed by higher education for those who chose to pursue it (Educational System in Saudi Arabia in 2006, 2006).

According to the Central Department of Statistics and Information (CDSI) (2015), in 2014 the number of Saudi citizens whose highest level of education was completion of primary school was 3,054,060, followed by 4,730,662 who had completed intermediate school and 5,991,833 who finished secondary school. The first university in S.A., "King Saud University", was founded in Riyadh in 1957 in order to provide higher education to Saudi citizens (Royal Embassy of Saudi Arabia in Washington, DC, 2016). University education is free and open to all people in the community. There are now 25 state universities and 27 private universities across the country (Giat, 2015). This has had a great effect on the social, economic and working lives of Saudi citizens, and their careers.

## **Socio-economic development**

The development of Saudi Arabia's modern social and political system began early in the twentieth century (1901–1930), when over 60 per cent of the population were Bedouin or nomads. At that time, the kingdom comprised various small towns and villages populated by the non-nomadic section of the population. Before the 1940s, around ten urban areas had been developed. The majority of these areas were situated in the west of the country, with the largest urban centre being Makkah, in the Hijaz region, which had a population of 80,000 (Al-Hathloul & Edadan, 1995). S.A. began to emerge as a force in global politics following the discovery of oil in its territories in the 1930s, which instigated a new decisive era of socio-economic development and prosperity. Hence, the nomadic section of the population was encouraged by the government to relocate to newly established industrial and strategic towns, villages and hamlets. Subsequently, all towns and villages began to develop in size, as people started to seek employment. Groups of workers from internal rural areas moved to the towns, and external migrants from Arab and Asian countries started to arrive in pursuit of job opportunities (Al-Hathloul & Edadan, 1995).

Overall, socio-economic developments quickly transformed the country into a highly urbanised nation, having been one of the least urbanised in the 1950s (Frisbie, 1995). As of 1992, an estimated 77 per cent of the population were living in settlements within S.A. (Frisbie, 1995). Furthermore, around 85 per cent of the industrial establishments in the country were situated in the cities, and these served about 75 per cent of the country's population (Al-Hathloul & Edadan, 1995; Long, 2005).

As the country's economy and wealth began to grow, alongside development of the oil industry, the government implemented construction plans to develop the nation's modern infrastructure. Nevertheless, the government was faced with certain challenges, including the requirement to educate Saudi nationals adequately so that they would become qualified and capable of managing and leading S.A.'s complex and modern economic and cultural expansion. As a result, the government sees the people of the nation as the future of its wealth and prosperity. Hence, there has been major investment to continue the growth in infrastructure vis-à-vis health facilities and higher education (Abir, 1993).

The oil reserves in S.A. are the largest in the world, and these account for about 70 per cent of the government's total annual revenue and 95 per cent of its exports (World Population Review, 2014). In the late 1930s, following the discovery of oil, the government of S.A.

brought in more foreign workers so that new projects for the national physical infrastructure could be developed faster. This included the construction of new roads and buildings, which appeared as foreign employers recruited both skilled and low-skilled workers. The majority of these migrants were South Asians and Southeast Asians in this period. These migration patterns were especially encouraged as, in comparison to Arab foreign workers, it was believed by the government that South Asian immigrants would be easier to control in their jobs as they would return to their parent countries after project completion. In contrast, it was thought that Arab nationals working in S.A. would be more likely to settle and stay, forming their own groups and bringing their families from their home countries (Pakkiasamy, 2004). According to statistics from Saudi Arabia's labour department, Egyptians made up 40 per cent of the total Arab manpower in the country in 2014 due to the working environment and cultural commonality that attracted this group to work and stay in S.A. (Middle East Monitor, 2014). Nonetheless, there has been a marked decrease in construction projects since the 1980s, which has meant that foreign workers have had to move away. In 2004, it was documented that the majority of migrants were employed in industries that required low-skilled labour, such as agriculture, cleaning and domestic service, while 15 per cent of migrant workers were in industries requiring skilled labour, such as oil, healthcare, finance and trade. In these industries, Europeans and North Americans dominate highly skilled positions, whereas South and Southeast Asians continue to dominate the low-skilled workforce (Pakkiasamy, 2004).

The proportion of foreign workers confirms that S.A. is a multi-national country, as is evident in the education, health and social sectors. Having considered socio-economic development and population issues, it is important to highlight the religious and cultural context of this research, as it may impact on the results. Islam shapes life in S.A. and influences the role of PHC nurses regarding health education, for example, gender segregation in educational sessions for patients.

## **Religious and cultural context of Saudi Arabia**

It has been stated by Long (2005) that S.A. is a culturally unique country. Saudi culture is influenced by Islamic values and roles. This is an essential issue in this research as culture

and Islam may influence the conduct of this research, as well as participant outcomes. Islamic values underpin all aspects of life in SA and shape the role of the nurse.

Islam, one of the largest religions in the world, had its birth and original development in the area now known as S.A., which can be referred to as the “Land of Two Holy Mosques”. The Masjid-e-Nabwi mosque in Medina and the Masjid-al-Haram mosque in Makkah are the two most sacred religious buildings within the Islamic world. Thus, Muslim pilgrims arrive annually from across the globe, for Haj and Umrah, as these are two of the five pillars of Islam (World Population Review, 2014).

Socio-economic development within the country has occurred within the bounds of Islamic religious beliefs (Littlewood & Yousuf, 2000), and Saudi culture is subject to the teachings of Islam. Furthermore, an Islamic legal system (sharia) has been developed from the Qur’an and prophetic traditions as interpreted by the Prophet Muhammad (Peace Be Upon Him) (WHO, 1998a). Nevertheless, the overall relationship between culture and development is also shaped by the economic status, level of education and environmental factors (Al-Shahri, 2002). Consequently, the health sector, including in the PHC setting, also adheres to Islamic values. As such, it is essential to consider Islamic values when identifying health-education competencies for PHC nurses. This is clear as some of the female patients prefer to see a female doctor rather than a male doctor.

## **Saudi healthcare system**

Al-Yousuf, Akerele, and Al-Mazrou (2002) explored the main objectives of the Saudi healthcare system and found they are health promotion and protection. Health systems vary not only between countries, but also within each country and over time. As such, health organisations need to adapt to new priorities and people’s health expectations. It has become evident that the health of Saudi Arabia’s population has been significantly affected by the rapid socio-economic development of previous decades. Furthermore, morbidity and mortality rates have begun to improve immensely, with distinct quality of life enhancement (Al-Yousuf et al., 2002).

The healthcare system in S.A. has seen various changes over the years, with a three-tier system being implemented. This encompasses primary health centres, secondary general hospitals and tertiary specialist hospitals, with the Ministry of Health (MOH) retaining



responsibility for all three functioning systems. The MOH is required to formulate new health policies, as well as maintain control of all health-related activities through strategic planning and health service programme supervision (Al-Yousuf et al., 2002).

It has been demonstrated by Abu-Zinadah (2006) that 60 per cent of healthcare services in S.A. are provided by the MOH, with 40 per cent coming from different governmental agencies, alongside the private sector. Other governmental agencies within S.A. include the Ministry of Defence and Aviation, the Ministry of the Interior, the Saudi Arabian National Guard and the University Teaching Hospitals (Aldossary, While, & Barriball, 2008), with both governmental agencies and private organisations operating different hospitals and PHC centres separately. Nonetheless, it has been noted that the private sector has increased and developed its healthcare provision in order to have a structured referral network, which is implemented through clinics, dispensaries, hospitals and pharmacies (Al-Yousuf et al., 2002).

When the Saudi government released the 2014 national budget, it stipulated that both education and healthcare would remain cornerstones of development. This meant a budget allocation that accounted for 37 per cent of the government's overall spending. In total, the largest share is for education, which stands at 25 per cent; this is believed to be one of the highest levels of investment by any government in the world. The expenditure assigned to Health and Social Affairs was 12.6 per cent, which equates to US\$ 28.8 *billion* (SR 108 *billion*), the second highest expenditure in the world as of 2014. Subsequently, with this expenditure, the government constructed 34 new hospitals and healthcare centres, while also continuously developing a further 132 current hospitals, in addition to five more medical cities that are currently being constructed while medical services are also being developed (U.S.-Saudi Arabian Business Council, 2014). It can be seen that investment is directed towards the educational and health sectors. This confirms the importance of improving health education practice within the PHC setting in order to promote health and prevent disease.

The budget proposed to develop an additional 20 sports clubs, 16 social centres and various labour offices nationally. Moreover, social welfare, citizens with special-needs, and poverty programmes are provided for and developed through the budget, which allocates 9 per cent to municipal services and 8 per cent to health and social affairs from the total budget for health sector, which were the largest national increases (U.S.-Saudi Arabian Business

Council, 2014). Still, there is a need to develop the PHC centres (PHCCs) as they are the first point of contact with the medical and nursing services. Further, public health issues which have been on the increase in the Saudi context such as diabetes can be diagnosed and treated in the PHCCs.

In relation to higher-skilled occupations, there has been a focus on the health sector in S.A., which includes consideration of service development as well as citizens' overall well being. Simultaneously, the government has dedicated fresh funding to general educational development, alongside vocational and higher education improvements. Hence S.A. now provides both healthcare and education that is free at all levels across the state, not supplemented by taxes on citizens (Albejaidi, 2010).

## **Prevalence of diseases and health issues in Saudi Arabia**

Development of the health care and education sectors described above is important, given the increasing prevalence of some of the health problems within the Saudi context. In this section there will be a discussion of key public health issues within the Saudi community and how these impact on the research study as health education can be a means for preventing diseases.

A health survey of 1,339 adults in the Eastern Region of S.A. found that around 66 per cent of participants were obese (Rehmani et al., 2013). The same study found that half of the individuals were reported as having high serum lipids and various psychiatric disorders. Additionally, 15.8 per cent were smokers. Therefore, it can be concluded that within the Eastern Region of S.A., where the study took place, there are significant health issues that need to be addressed.

The health sector was motivated by the prevalence of various diseases in S.A. In 2013, there were 3.6 million cases of diabetes reported, according to the International Diabetes Federation (IDF), and 22,113 deaths between the ages of 20 and 79 were documented as being related to this illness. Therefore, it has been highlighted that, S.A. needs to enhance its response to the challenge and progression of diabetes through national plans and policies. Unfortunately, a distinct lack of structure and communication has been noted as existing for a number of years between government bodies, which could help to prevent this disease (International Diabetes Federation, 2014). So it is vital to have health education that targets diabetes, especially in the PHC setting, which is the first point of contact for patients. Further, the literature clearly notes the efficacy of diabetes education for patients in terms of

preventing complications and promoting positive outcomes for patients (Abdulhadi et al., 2013; Al-Khaldi, 2008).

Smoking is a major cause of deaths in S.A. In 2014 it was responsible for around 23,000 deaths across the country according to a report from the Anti-Smoking Centre (Al-Hamid, 2015). A recent study from the WHO indicates that there are six million smokers in S.A. and this is estimated to increase to ten million by 2020. S.A. has the fourth largest proportion of smokers in the world according to the Saudi Gazette (2015).

El Bcheraoui et al. (2015) explain that breast cancer ranked ninth as a cause of death among women in S.A. in 2010. In 2009, it was estimated that 25 per cent of women in S.A. would contract breast cancer in their lifetime. This is as a result of the lack of awareness among women in S.A. meaning they are less likely to check for the disease. Clearly, this may be addressed through health education in the PHC setting. Moreover, Al Frayh, Shakoor, ElRab, and Hasnain (2001) found that more than two million people in S.A. have bronchial asthma and 13 per cent of Saudi children aged between 6 and 10 years are diagnosed with asthma. Therefore, asthma is considered to be a chronic disease in S.A. However, it is one that can be prevented via different measures such as health education about the risk factors.

Cardiovascular disease (CVD) is also considered to be a major health problem in S.A. It is clear from the health profile of Saudi Arabia (Alwan, 2011) that this disease is responsible for over 22 per cent of deaths each year, which makes it one of the leading causes of death. Alaa-El-Dine and Faramawi (2015) explain that the main cause of heart disease in S.A. is lifestyle, including smoking, diet and physical activity. Again, it is important to note that this can be changed and improved through health education.

From the above discussion, it can be seen that the health profile of S.A. is changing. The MOH's (2009) strategic plan emphasises primary health service development and a shift from hospital services. As a part of that development, it is essential to note that a number of the most prevalent diseases in S.A. can be prevented through health education and awareness raising in the community. As a result, there is a need to train health professionals including PHC nurses, as PHC centres are the first point of contact for people and patients. However, S.A. is a multicultural population, as discussed earlier, and this point has to be considered when identifying health education competencies to be delivered to the whole community.

## **Primary health care in Saudi Arabia**

Saudi Arabia has been shown to be a leading country in its acceptance and implementation of the PHC concept in the Middle East (Al-Khaldi, Al-Sharif, Al-Jamal, & Kisha, 2002). Still, there is a need to further develop the PHC services in S.A. in order to work successfully to improve the quality of health care provided to the community. A dramatic progressive increase in the PHCCs network has been seen since developments were brought forward in the 1980s, and these now provide access to most of the country, with 12,958 nurses working in PHC centres nationally. The number of PHCCs had grown to 2,037 in S.A. by 2009, with the Eastern Region boasting 228 of these, at the time of this research. Furthermore, according to the strategic plan, PHC and MOH outpatient clinics account for just over 50 per cent of all patient visits, at 66 million in total (MOH, 2009).

A number of challenges face healthcare systems and organisations around the world, including PHC centres. For instance, there are always the challenges of workforce shortages, along with poor productivity and differences within care quality that can be addressed through staff training (Al-Ahmadi & Roland, 2005). As with other nations in the world, S.A. must face the growing challenges that come with greater demands for health services, as costs begin to rise and the public demand better services for themselves. The components of quality care are access to the health structure and the effectiveness of care (Al-Ahmadi & Roland, 2005). According to the Scientific Committee for Quality Assurance (1993), national rules for quality assurance and assessment in PHCs have been recognized. These rules cover the main parts of PHC, which are community participation, immunization, referrals, chronic disease management, health education, maternal health and environmental health.

According to the Health Systems Profile, Saudi Arabia Regional Health Systems Observatory (WHO, 2006), The PHC centres, where PHC services and programmes are provided, can be seen as the cornerstone of the healthcare system in S.A. PHC services are provided nationally and create a first point of contact for any new patient within the health system. These PHC centre networks are linked to services in secondary and tertiary care by a referral and feedback system. This will be discussed in detail in Chapter Two.

In addition, in a specific catchment area for any section of the population, PHC centres provide services that are essentially promotional, preventive, curative and rehabilitative. Moreover, the services cover maternal and child health, immunization, the management of chronic diseases (e.g. hypertension and diabetes), dental health, the provision of essential

drugs, environmental health (e.g. water and sanitation), food hygiene, health education and disease control. However, health centre numbers vary across regions in the country, and services such as dental clinics, X-ray equipment and laboratories in each health centre can be limited at times, as the majority of such facilities are located in urban areas (MOH, 2009).

A range of challenges and concerns for PHC services was documented by the MOH (2009), and these were shown to affect the work of PHCs. They include: Geographical challenges due to the size of the country, as well as sporadic nursing knowledge and specialised skills to address health changes in society as the birth rate increases. It is vital to increase the knowledge and skills of health professionals. Chronic diseases, such as diabetes, heart failure and cardiovascular disease, are all increasing as a consequence of poor education about lifestyle. As explained earlier, there is a clear spread of these diseases across the country and the main reason is lifestyle. Challenges may be present due to religious and cultural beliefs, which may restrict certain forms of treatment, although S.A. has developed organisational rules within the boundaries of Islam. For example, gender differences in access to PHC centres and health education; it is clear that most Saudi female patients prefer to see a female doctor. Finally, the shift from a more rural to a more urban population also represents a challenge as this movement influences education as well as the economic life of people who live in S.A.

Subsequently, the delivery of primary care services was reformed to include (MOH, 2009): Cooperative health insurance; A budget allocation increase with more money to invest in the health sector; Ambulatory medicine; Outpatient care which offers diagnoses, treatment, consultation and rehabilitation services; Information technology network expansion in the form of new information structures for patients' data within the MOH; Essential drugs and technology access at an affordable price; Enhanced quality of PHC performance in all respects. This can be achieved via frequent assessment of PHC centres; MOH hospitals catering for expanded privatization; and finally, greater numbers of specialized staff, with medical training and education being encouraged in more universities across the country.

It is clear that self-management improves health and prevents complications arising from chronic diseases (Midhet & Sharaf, 2011; Jahan et al., 2006). Consequently, health education can be an effective means to improve the self-management of people, as explained by several studies. For example, Al-Amoud (2003) suggests that there should be breast-feeding education for pregnant women and new mothers in the PHC setting. Moreover, Yousuf, et al., (2012) highlight the need for breast self-examination to promote early detection of breast

cancer. In other countries, such as the UK, it has been noted that using nurses in chronic disease management has had a positive influence on the quality of healthcare (Roland, Guthrie, & Thome, 2012). In S.A., patients have a universal registration with a single practice. Primary medical care is delivered by general practitioners and nurses who can take on the role of GPs in several aspects of primary care without any loss of quality (Al-Ahmadi & Roland, 2005).

In the Saudi context, nurses play a vital part in the overall delivery of healthcare, through their skills as well as patient health education. Hence, it is pivotal for PHC centres to assess and evaluate the health education that is currently provided by nurses. Moreover, certain factors can contribute to the health-education process, and these include the environment, cultural differences, language barriers, educational background, years of experience and gender (Abdulhadi et al., 2013; Al-Amoud, 2003; Aalto, Pekuri, & Seppa, 2001). Therefore, it is essential to identify the competencies required by PHC nurses when delivering health education, due to the increasing size of the population and the developing health issues that affect the lives of the population, including smoking and diabetes. Also, PHCCs have made progress in the last few years.

### **Nursing in Saudi Arabia and its links with Islam**

Having discussed the role of Islam and its interface with socio cultural issues, this section considers the relationship between nursing and Islam, commencing with the starting point of nursing within Islam and following with the historical background of nursing education within the S.A. context and the university education of nursing fields.

The history and progress of nursing education in S.A. have to be studied to comprehend how nursing as an occupational choice can be affected and influenced. Further, culture and social status also influences the decision to be a nurse. Due to the shortage of Saudi nurses, there is also a need to recruit foreign nurses to work in S.A.

### **Nursing in Islam**

Fourteen hundred years ago, it became necessary to defend the new community of Islam. Following this, requirements were developed in the name of the “expansion of Islam”, in order to compete against neighbouring dominant and competing civilisations, including Persia and Rome. Subsequently, women of Islam volunteered as nurses and became vital to the process of war, something that was contradictory to the development of female participation pre-Islam. Those nurses started to deliver first aid, care and water to the needy,

as well as arrows and swords to those men who were required to fight (Hasan, 1982; Sultan, 1990). Muslim women on the battlefield were known as “Al-Asiyat”, which referred to how they helped to alleviate pain and ease any possible suffering (Mahir, 1970).

Nursing developed from the past era of Islam as a duty in religion, and social healthcare gradually became more organised. Following this, female nurses were bestowed with the same status as male fighters by the Prophet Mohammed, and given an equal share of any material gain from the battlefield (Sultan, 1990; Al-Osaimi, 1994a). Furthermore, The Prophet Mohammed encouraged his own wives and daughters to participate in this field of nursing. Nurses were not only utilised in war, as it has been written that an early Muslim nurse, Rufidah Al-Aslamiah, was nursing those who required care from a tent in the mosque of the Prophet Mohammed in Al-Madina city, as many people attended to pray there (Mahir, 1970; Sultan 1990). It is possible to note that nursing services in Muslim societies were initiated for religious causes, just as the early Western societies did, through moral and spiritual values (Hasan, 1982; Sultan, 1990). So, nursing was considered to be a worthy job and a significant role.

### **Historical background of nursing education**

The first health institute for young men in S.A. was opened in Riyadh back in 1958 (as many women did not have the chance to continue their education the school), through a joint effort forged between the World Health Organisation (WHO) and the Ministry of Health (MOH). At first, 15 students graduated at the end of a year’s training as health inspectors. This followed a minimum of six years of elementary education. Nurses’ aides, who are members of staff are responsible for skills such as bed-making (Miller-Rosser, 2006), were graduated from institutes for training male nurses in Jeddah and Houfouf, and women through two separate health programmes in Riyadh and Jeddah (Tumulty, 2001).

The MOH extended the one-year programme to three years, as nursing education began to develop. Subsequently new institutes were opened throughout the country, and secondary-school graduates began to enrol. Progressively, different sections of the country began to open MOH institutes, and these offered a range of health specialties. For instance, pharmacy, radiography, laboratories, anaesthesia, physiotherapy and nursing all began to be developed (Miller-Rosser, 2006).

Moreover, two-year teaching programmes were introduced and taught in Arabic. Accommodation, uniforms and transportation were provided to the students free of charge, plus a monthly allowance of £100. Then, on completion of 12 years of full-time education (primary and secondary school), students became eligible for two years of health speciality training, and diploma certificates were awarded. In addition, graduates were made nursing aides, with a monthly starting salary of £515, in different government hospitals and dispensaries. This programme was effective and attracted many Saudi females and males as graduates could work in either hospitals or PHC centres (El-Sanabary, 1993).

University-level education opportunities started to grow, and the population in S.A. began to perceive nursing education, which was undertaken in colleges at diploma level, as a less respected path than university, thus presenting fewer professional opportunities. Additionally, this negative view reduced enrolment on MOH programmes, so the numbers of nursing graduates were limited. Further, in some families, their social life hindered registering for nursing as a choice in university education. This poor uptake meant that the demands of the MOH were not being met. The workforce therefore needed to be supplemented with a high proportion of foreign nurses (El-Sanabary, 1993).

The developments within the field of nursing began to challenge Saudi Arabians' traditional perceptions of women. Consequently, objections became widespread, so the authorities had to assure the population that female students would remain veiled and only be taught by female instructors (Abu-Zinadah, 2006). Moreover, the authorities stated that female nurses would only provide nursing care to other females and would not work with male physicians. Subsequently, the educational opportunities for Saudi Arabian women were promoted further, as highlighted by a female Arab Muslim consultant representing the MOH, even though in 1963 only thirteen Saudi female nurses were reported as graduating (El-Sanabary, 1993).

### **University nursing education**

As the educational level of the Saudi population has risen, more people have gone on to university study. According to the Central Department of Statistics and Information (2015), in 2014, the total number of Saudi people who had completed 12 years of elementary and secondary school was 5,991,833. Meanwhile graduate students from university reached 3,489,547 in 2014. In the same year, the female population who completed their university education numbered 1,500,103, compared to the males at 1,989,444 of 2014 (CDSI, 2015).



The number of programmes offered has increased considerably since the 1970s, however the courses have not always had large numbers of graduates, as will be discussed below. In 1976, a Bachelor of Science in Nursing (BSN) programme was initiated at the College of Nursing at King Saud University in Riyadh, followed by a Master of Science in Nursing in 1987. King Abdulaziz University in Jeddah initiated BSN programmes in 1977, and King Faisal University in Dammam similarly in 1987; these were limited to female students and controlled by the Ministry of Higher Education. Furthermore, these programmes have an enrolment requirement of 12 years of elementary and secondary schooling. The BSN programmes cover comprehensive nursing theories and practical experience and are taught in English, in addition to a number of university-required general education courses (Tumulty, 2001).

Even sixteen years after the establishment of these university programmes, there were only 117 female BSN graduates from three universities. This limited number was perceived to be due to the negative image and low-level nature of nursing work, as well as the five-year duration of the programme and the high dropout rate among first-year students (Al-Osaimi, 1994a). It has also been stated that even an occupation that has been culturally appropriated by a government authority is not always enough to guarantee acceptance by the public (El-Sanabary, 1993). Also, a master's programme in nursing was established at King Saud University in 1986 in order to encourage more female students to enrol for nursing (Al-Osaimi, 1994d). Mahran and Al Nagshabandi (2012) emphasize that the nursing profession faces obstacles related to its negative image, which decreases the number of people who choose nursing as a profession.

In collaboration with Monash University in Australia, the King Faisal Specialist Hospital set up a local scholarship programme to offer post-graduate education to Saudi nurses who are unable to study abroad (Aldossary et al., 2008; Miller-Rosser, 2006). Hence, nurses in S.A. have the opportunity to study and work in the country, which means that they can be closer to their families. This collaboration between Western universities and Saudi nurses aims to promote the sharing of experience and improving education in S.A., thereby positively influencing healthcare delivery and the nursing profession in general. Further, this collaboration improves the performance of Saudi health professionals to develop their own competencies and roles to follow. Nonetheless, this is only available for nurses working in the King Faisal Specialist Hospital and Research Centre. Therefore, obstacles remain for other nurses wishing to continue their higher education (Miller-Rosser, 2006).

This section has explained the concept of nursing in Islam, its history and university nursing education. It is clear that Saudi girls rarely selected nursing as a career due to the profession's negative image and the low-level nature of the work, among other reasons. Thus, there is a need to increase the number of Saudi nurses by improving the image of nursing. There is an overlap here with the aims of this study, which include addressing the need to develop PHC nurses through continuing education programmes, and health education in particular.

## **Conclusion**

This chapter has presented an overview of Saudi Arabia and explored how Saudi individuals, and their expectations, have changed due to socio-economic development. This chapter explores migration to S.A. While many Arab nationalities prefer to stay in S.A., there is a tendency for western people to go back to their home country after completing their work in S.A. The culture and beliefs, linked to religious practices that affect the entire population have also been highlighted, with an emphasis on the health system and how Islam plays a major role within the functioning of S.A. as a whole. Additionally, the chapter has demonstrated the modern historical development of the health system and nursing education in S.A., alongside employment. This chapter explains the context for this research study, as it is vital to be aware of socio-economic and working considerations within S.A., which will influence the processes of the research and, subsequently, the results. Hence, it has been shown that formal education for nurses is important for the establishment of a qualified professional nursing workforce that comprises well-trained individuals with the highest levels of specialist competence.

The next chapter will discuss the concepts underpinning this research study and their interface with primary health care nursing. There will be consideration of health, health promotion and health education, illustrating the differences between health promotion and health education. There will also be a detailed exploration of PHC and associated concepts prior to a discussion of contemporary PHC policies and their impact upon the role of nurses.

## **Chapter Two: Health, Health Promotion, Health Education, & Primary Health Care ‘Policies’**

### **Introduction**

Before describing the contents of the chapter, it is essential to highlight the meaning of the words “concept” and “model”. According to Watt and Van den Berg (1995, p.11), “a concept is a verbal abstraction drawn from observation of a number of specific cases”. On the other hand, a model is the term to simplify ways of representing something that is very complicated (Gabrenya, 2003). This chapter discusses a number of health concepts and models and draws together several key elements central to the research study. The first element will explore the vital components and concepts of health, health promotion and health education within primary health care. This will provide the basis for the overall research thesis. Subsequently, this chapter will present the common models of health promotion and health education as well as models that have been used in nursing practice. There will be discussion of the health education approaches used within health care and community settings, an explanation about the emergence of the PHC in health service development, and a discussion of some points about how policy work within the PHC setting, particularly within the Saudi context. The last element in this chapter will focus on the nursing situation in PHC.

### **Concepts of health, health promotion and health education**

Health can be conceptualised in a number of ways; Katherine Renpenning and Taylor (2011) state that health is not limited to one understanding. Various definitions and concepts support contrasting philosophies about health and underpin health promotion and health education interventions in different ways. There is no universally accepted definition or conceptualisation of health. The discussion here will consider a number of health concepts used within the literature and illuminate the concepts used to frame this research study.

It is stated by the “Oxford English Dictionary” (OED) (2014) that a person who is not infirm, or who does not have an injury, can be defined as healthy. The OED’s definition is interesting as post World War II, health concepts have emphasised the importance of holistic well being, as opposed to physical disease or infirmity. For example, it has been shown that health as a concept underpins the complete state of one’s health, which is a combination of mental,

physical and social factors (WHO, 2011). The WHO concept of health implies that poor health relates not only to the presence of physical illness, as one's entire existence is determined by it, but also hinges on a positive understanding of the social, physical and mental levels of a human being. Nevertheless, this specific definition has been scrutinised for its lack of recognition of emotional and spiritual factors, even though it is seen as positive (Ewles & Simnett, 2003). Further, as the definition provided by the WHO relies on a holistic understanding of a particular individual's life, professionals in the health sector must analyse how each person interprets their own personal experience (Laverack, 2007). This is significant as many personal factors can be affected, such as status in society, self-confidence and the outside support they receive.

The WHO (2011) notion of health as a multi-dimensional concept incorporating emotional, social and other factors is also expressed within the Saudi Arabian MOH (2012) definition of health, which states that ill health is more than the onset of illness in an individual, as health is actually the process of securing and preserving one's mental, physical and psychological safety. This definition considers safety as an essential issue in the health for people within the community, as safe environments influence health in general. Moreover, MOH (2012) defines health as relating to the understanding, achievement and implementation of health concepts through their promotion, education, the prevention of disease and other preventative action. This definition is similar to the WHO's 2011 definition, though there are differences in relation to the provision of psychologically safe environments for people.

It could be argued that the concepts of health given above, focus upon the subjective experiences of the individual and how they perceive health. In contrast Seedhouse (1986) suggests that health can also be conceptualised from a functional perspective and not necessarily just from an individualistic opinion base, as good health provides a person with the ability to perform and live their life (Seedhouse, 1986). In addition, Seedhouse suggests that an individual's health is a platform for achievement; it is "equivalent to the set of conditions that enable a person to work to fulfil their realistic chosen and biological potentials" (Seedhouse, 1986, p.61).

It is also possible to comprehend health as not purely a concept, but also an acquired and developed human commodity, as it is shown that the function of positive health can be developed and even purchased through strategic construction in private care (Aggleton, 1991). More specifically, health is shown by Aggleton (1991) to have been developed into a

commodity that can be ‘sold’, given medication purchases and the rise in health food shops, to the social conscience, ‘given & provided’ through medical intervention, or ‘lost’ through disease or injury. In this definition of health, it is clear that health functions together with modern consumerism.

In addition, definitions of health are built up from other umbrella terms, such as humanism and empowerment, which construct the concept of health in ways which go beyond mere medical definitions (Acton & Malathum, 2000). Health can be seen as highlighting how an individual is capable of coping in varied and changing circumstances, and so it focuses on a person’s ability to achieve their potential, which is underpinned by the concept of humanism (i.e., an emphasis on the value and agency of human beings). Following this, health can empower an individual to believe in his or her own self-actualisation (Acton & Malathum, 2000). Self-actualisation is defined as the “ongoing actualization of potentials, capacities and talents, as fulfilment of mission (or calling, fate, destiny, or vocation), as a fuller knowledge of, and acceptance of, the person’s own intrinsic nature” (Maslow, 1968, p.25). Therefore, health can be comprehended as a concept that creates the basis for future objectives and achievements (Seedhouse, 2001).

The discussion to date has focused upon the multi-dimensional conceptualisation of health. For example, “health” may be more abstract for certain individuals, depending how they define and conceptualise health. “Health is not, in the minds of most people, a unitary concept. It is multidimensional, and it is quite possible to have “good” health in one respect, but “bad” in another” (Blaxter, 1990, p.35). Thus, it becomes possible, through this statement, to view health in other ways. One such example is to understand health to be more personal and directly affected by personal circumstances, or how different situations can change the prioritisation of one’s health (Downie, Macnaughton, & Randall, 2000). On the whole, the full scope of understanding related to health is continuously evolving; it is not restricted by any one personal or subjective identity (Downie et al., 2000). It becomes clear that, to label health fully, a set definition requires the analysis of a variety of factors that can prove influential, even though these intricacies have shown the difficulty in attempting to create just one universal definition of health for all (Warwick-Booth, Cross, & Lowcock, 2012). According to Senterfitt et al., (2013) there are social and economic factors that influence health for people within the community, including: status of employment, income, education level, family support, and community safety. It is crucial to note that these factors play a major role in the public health problems within the Saudi context as discussed in the previous

chapter. There are increasing numbers of people with diabetes and cardiovascular patients around the country, for example: there were 3.6 million cases of diabetes in 2013 (IDF, 2014).

There has been steady development, since the end of the 1970s, towards assuming that health will be affected by how well an individual interacts with the environment and the health professionals around them. This emphasises how treatment has shifted its focus to accommodate the vital individual influence that a patient has on their recovery and development, and away from the healthcare professional. Hence, this personal acceptance of control functions together with the acknowledgement that one's previous behaviour and personality characteristics also affect our mindset, which illustrates how a patient can deeply affect their own personal health development (Pender, 1996). This shift concurs with the Saudi MOH strategy (2011) that enhances patients' satisfaction within the PHC setting by focusing on their behaviours toward health. The concept of health provided by the Saudi MOH (2012) will be utilised throughout this research, as it focuses on health education and health promotion, as well as sharing the cultural context with this research study.

Before moving to the concepts of health promotion and health education, the term wellness has to be illustrated, as there is potential for confusion between health and wellness. According to Smith, Tang, and Nutbeam (2006, p.344) "wellness is the optimal state of health of individuals and groups. There are two focal concerns: the realization of the fullest potential of an individual physically, psychologically, socially, spiritually and economically, and the fulfilment of one's role expectations in the family, community, place of worship, workplace and other settings". Further, wellness can be a state of being in good health (OED, 2015). From these definitions, wellness is considered as to be broader and more holistic than health. As explained by Ardell (1977), health is the outcome of a wellness lifestyle.

Once the definitions of health are understood, it becomes imperative to define the concepts of health promotion and health education, and how they impact on nursing in primary health care. This is undoubtedly the case as previous nursing definitions have demonstrated a lack of separation between the promotion and education of health, even though there are distinct factors that define each one (Whitehead, 2008). Furthermore, many nurses have expressed how they struggle to differentiate between the terms health promotion and health education (Whitehead, 2004). Recent research has shown that although understanding of the two concepts is high among most nurses, nursing practice has focused more on health education,

and nurses need to improve health promotion practices. Therefore, health promotion includes the narrower concept of health education, which means that health education is a part of health promotion (Whitehead et al., 2008). However, in this research study, the main aim is to improve the practice of health education for PHC nurses in the specific context of S.A.

Overall, the concept of health promotion has a broad definition, one that encompasses various socio-economic and environmental health factors which are directly affected by individual participation (Whitehead, 2008). Thus, “health promotion” is an umbrella term that includes the narrower concept of “health education” (Whitehead, 2001). As discussed earlier by Whitehead (2004), it is suggested that health promotion and health education are fundamental in nursing performance. The model suggested by Tones and Tilford (2001) demonstrates this correlation, as health promotion is believed to comprise good health education and a satisfactory public health policy.

It has been demonstrated that health promotion is conducted through enabling individuals to improve their health, as well as to increase their control over it (WHO, 1986). Likewise, health promotion has been labelled as facilitating the improvement of various dimensions of an individual; physical, psychological and social. It has also been stated that health education focuses on the prevention of diseases and is directly associated with the medical science model of authority (Naidoo & Wills, 2000). In contrast, health promotion can be seen as being more individualistic in its approach, as it is directed through a nurse’s individual interaction with a patient’s health, which requires the nurse to understand their role in altering the external factors of the environment that can prove detrimental or beneficial to a person’s health (Mackintosh, 1996). PHC nurses in S.A. have to be aware about patients’ culture in order to improve their health behaviour.

“Health promotion” is used to emphasise a multifarious approach that encourages the implementation of changes to health and lifestyle (Laverack, 2007). This promotion of health can permit an individual to exercise personal control over their own health, as well as contributing factors, by demonstrating how their own health can be enhanced (WHO, 1986). Additionally, health promotion “involves social, economic, and political change to ensure the environment is conducive to health”, though this also “demands that the nurse plays a role in attempting to address the wider environmental and social issues that adversely affect

people's health" (Mackintosh., 1996, p.14). Social and economic status can influence the process of health promotion; the development of S.A. has been accompanied by an increase in public health problems which require improved health promotion processes within the community. With the increased number of patients suffering from diabetes, and hypertension, there is a need to increase health awareness in the community through health education. It is clear that socio-economic status influences engagement in health education.

It is noted by the WHO (2009) that enabling and supporting different central concepts of health promotion involves the promotion of autonomy and individual control by people in order to ascertain a state of mental, physical and social well-being. This covers more than purely focusing on the behaviour of an individual when confronted by a variety of social and environmental situations. Moreover, this issue was an item in the Saudi MOH (2009) strategy to improve the health system, by maintaining outpatients' clinics around the country that provide diagnosis, treatment, and rehabilitation to the patients.

Having discussed health promotion, the focus will now turn to health education concepts and their relationship to health promotion. Health education has been confirmed as being a vital function of nursing in both acute and primary care settings (Cantrell, 1997; Choi et al., 2010; Demir et al., 2008; Wilson-Barnett & Clark, 1993). Moreover, Whitehead (2001) confirms the importance of nurses delivering health education in terms of the impact on the health status of the client. As stated by Shaw (1999), modifications to the health behaviours of people, including patients with chronic diseases, is part of the role of nurses in different health-organisation settings.

Whitehead (2008) states that the practice of health education is imperative for the nurses seeking to continue their registration. Likewise, Saudi Nursing Policy requires health education to be delivered by PHC nurses (MOH, 2011). It is confirmed by Hoving et al. (2010) that health education develops communication throughout healthcare, which is vital for nurses and patients alike. Also, various tools can be utilised to provide and enhance health education through the development of communication in (PHCCs), such as interpersonal communication, leaflets or websites. Some of the models of health promotion and health education will be discussed in the next section. For example, Abdulhadi et al. (2013) confirm that communication can be considered a crucial aspect within the health education process in a PHC setting. Therefore, both health education and communication between patients and



health professionals are essential to improve healthcare in general. Moreover, they presented in their study some barriers that impede the process of health education, including workload, time of the education session, and lack of payment.

Wilson (1994) describes health education as incorporating a developed understanding of anatomy and how behaviour can prove detrimental to one's health, as well as possible techniques to prevent illness or disease. Additionally, information is provided by health education programmes that explain values and beliefs, which ultimately develop the skills to permit changes to health behaviour. Hence, self-esteem is promoted, as well as self-empowerment, in order for individuals to take action and understand their own personal choices. From Wilson's view, issues affecting people's health, such as smoking, diet, and exercise, can be improved by changing people's behaviour through health education. Moreover, health education is a part of healthcare which is directed towards an overall process of enhancing individual learning, through behaviour, knowledge, lifestyle, and personal skills which incorporate all the physical, psychological and social factors of health (Ewles & Simnett, 2003). Hence, it can be deduced that health education is a functional part of health promotion, although promotion is not necessarily a part of education (Tones, 2000; Whitehead, 2008).

As explained by Whitehead (2008), the development of knowledge to understand one's attitude to health derives from the accumulation of learned experiences via health education provided to people and communities alike. Similarly, health education is defined as being those "activities that raise an individual's awareness, giving the individual the health knowledge required to enable him or her to decide on a particular health action" (Mackintosh, 1996: p.14). This means that health education provides the choice for people to select their attitudes toward health and enhances the skill of decision making in people. Furthermore, this form of education is a process that aims to "inform the individual about the nature and cause of health/illness and that individual's personal level of risk associated with their life style behaviour. Health education seeks to motivate individuals to accept a process of behavioural change through directly influencing their values, beliefs, and attitude systems" (Whitehead, 2004, p.313). As this discussion highlights, both Whitehead (2004) and Wilson (1994) aimed to change individuals' behaviour by health education.

Health education is stated as being a formulation that delivers information about one's health, through a communicative process to develop knowledge, so that an individual becomes

empowered, which hopefully instigates beneficial changes in behaviour and so develops health (Whitehead & Irvine, 2010). Such lifestyle and health improvement is enhanced through the joint process and effort of health education by the individual patient and the healthcare professional, which aims to increase awareness and the ability to cope, as well as the psychological, physical and social aspects of health (Ewles & Simnett, 2003).

Health education in PHC is stated by Ross and Mackenzie (1996) as being a directed and structured educational intervention which focuses on self-directed motivation, alongside formulated actions that people can exercise regarding their own personal health and the health of others in their care. Nurses have an essential role within the PHC team, and so the health education that they deliver to a patient and their visiting family members needs to be of high quality.

Health education has been shown to require teamwork from a variety of healthcare professionals in order to provide positive results for patients and enhance responses to their needs (Deccache & Aujoulat, 2001). For instance, it was demonstrated that health education in Holland is instilled within the hospital environment via a qualified 'patient education coordinator'. This professional is then directly responsible for organization of the health education function by providing healthcare employees with supportive methods, as well as improving the availability of patient education activities. Nevertheless, in the past, health education was directed through psychologists or social workers in healthcare teams (Deccache & Aujoulat, 2001). As health education, sessions were presented and prepared by social workers in the health organisation. However, social workers are not familiar with the physical conditions of the patients and their needs, which emphasises the need to cooperate with nurses in the health education process due to their direct contact with patients.

Furthermore, nurses and other healthcare professionals, such as physicians who offer health education, are beneficial as they are viewed as direct indicators of the quality of care administered. It has been stated that health education in European countries (including France, the Netherlands, and the UK) is a major part of the accreditation procedures for hospitals and other health organizations. While health education is one of the factors of good quality care, subsequently, each healthcare professional is designated the educational task of providing quality information to their patient, alongside the high level of care that they give (Deccache & Aujoulat, 2001). Moreover, nurses are required to provide health education and, in hospitals specifically, it is vital that patients are fully educated and informed in order for

them to have full knowledge of their illness or condition, as well as possible treatment options. Then, anxiety levels can be reduced, as well as the period of time spent in hospital through educating patients satisfactorily (Devine, 1992).

Having considered the concepts of health education, it is important to define health education according to the Saudi MOH. As this research study focuses on the specific role of PHC nurses within health education in Saudi Arabia, this definition will be utilised throughout this research. Hence, health education is "a process of learning experiences directed towards a particular behaviour or problem with a focus on changing negative points of view, behaviours and beliefs of individuals and groups, which is important to improve the level of health and encourage people to embrace a lifestyle and practices compatible with long-term good health" (MOH, 2011, p.3). As well as being context specific, this definition encompasses learning experiences, encouragement of changes to negative behaviours, and good health.

The section above has focused upon the concepts of health, health promotion and health education. It can be seen that health requires maintenance of physical, mental, and psychological safety for the individual. Whereas health promotion is considered to be an umbrella term encompassing a number of activities for positive health, including health education, health education has been conceptualised as a distinct activity concerned with the provision of learning experiences, enabling patients/clients to explore health choices and their health beliefs before making a decision about health. For the purpose of the research study the health concepts of Saudi (MOH, 2012) have been adopted. Likewise the (MOH, 2011) conceptualisation of health education has been adopted as an underpinning concept for the study, as it is aligned with the cultural and social context of the country, whilst emphasising exploration of the beliefs and values of patients and clients, alongside decision making.

On the other hand, according to Al-Khaldi and Al-Sharif (2005), who examined the availability of health education materials for patients with diabetes and hypertension, face to face health education is a difficult approach for physicians due to time and workload considerations. This is a potential disadvantage of health education. The use of pamphlets and booklets was more helpful to patients in order to achieve the aim to promote health and prevent disease. Cutler and Lleras-Muney (2007) found that people with a higher level of general education were more inclined to act upon health education and health advice, as they had more awareness of health issues. However, people with lower levels of education were

not as inclined to act upon health education and related information. In addition, health education barriers can have a negative impact upon health education outcomes, contributing to a decline in health. A detailed discussion of barriers to health education will be given in Chapter Three.

Having reviewed the concepts of health, health promotion and health education, and having discussed how health education is defined in the PHC context of S.A., the following section will explore the concepts supporting health promotion and health education models for use in the nursing practice setting. Examples of health promotion and health education models used within nursing practice will be considered in detail below.

## **Health promotion models**

Health-promotion practice and planned interventions can be directed through different health promotion models, including Tannahill's 1984 Venn diagram model, which provides a framework for health-promotion definition and implementation (Naidoo & Wills, 2005). This specific model utilises three interconnecting spheres of health development, i.e. health education, prevention and health protection, in order to present health-related activities in a comprehensible manner. The model is considered to be linguistically straightforward and to offer a clear outline of the concept of health promotion, although it has been criticized for being overly simplistic and, as a consequence, not offering adequate theories for indelible factors in health-promotion practice (Downie et al., 1996). In addition, the model was criticised for not taking into account factors that are community based, hence Tannahill revised his explanation in order to take into account the consequences for health for individuals, groups and populations (Tannahill, 2008). Subsequently, community-based activities were prioritised in a modified definition, which emphasises equity and diversity, as it promotes "sustainable enhancement of positive health and reduction in ill-health in populations through policies, strategies and activities in the overlapping action areas of: social, economic, physical environmental and cultural factors" (Tannahill, 2008, p. 1390). Tannahill's model has been utilized in healthcare for diabetes, with the objective of enhancing the individual's lifestyle through diabetic support clinics, on both individual and community levels (Daly, 2004). It has been found to reduce the incidence of complications, although it is emphasized that a nurse must provide advice to the patient that is of sufficient quality.

Theoretically, this model influences the present study, as it offers guidance when identifying health education competencies for PHC nurses from an educational perspective. This is because, according to Koutoukidis, Stainton, and Hughson (2012), Tannahill's model is considered a beneficial framework and curriculum model for both under- and post-graduate nursing education. According to Tannahill, (2008), it is a theory that focuses on modern-day public health policies, which hinge on reducing health inequalities and improving life circumstances, which is consistent with health protection and an essential part of a PHC nurse's role. Hence, the ideal that can be observed in this model is that health education for nurses can be part of the desired framework to fulfil the study aims. However, it has to be borne in mind that such a theoretical model fails to consider community-based factors that are key to all health-promotion practices (Raingruber, 2013), especially in a country like S.A, which is replete with cultural factors that need to be considered in any nursing educational programmes.

#### ***Tones' empowerment model***

The model put forward by Tones and Tilford (2001) focuses on how health education and public policies interact, which is a key component of health promotion. It is further explained that policy is vital to understanding the environmental and cultural factors, as well as socio-economic ones, that affect and impact on service quality when delivering improved health (Whitehead & Irvine, 2010). Therefore, health promotion is linked to improvements in social status and policies that influence the health of the community (Whitehead, 2004). Moreover, it is explained by Lavis and Sullivan (2000) that political advocacy influences the reform of public policies for health. Tones and Tilford (2001) define health-promoting political advocacy as a particular type of role that helps underprivileged people in the community. Also, they explore health status vis-à-vis the agenda of policymakers who develop policies focusing on social improvement via guiding the health of individuals.

#### ***Pender's health-promotion model***

Pender et al. (2006, p.23) define health as "the actualization of inherent and acquired human potential through goal-directed behaviours, competent self-care, and satisfying relations with others, while adjustments are needed to maintain a structural integrity and harmony with the

relevant environment". This definition includes the means used to promote health by considering the individual's view of themselves and their lifestyle. The health model which has been promoted and developed by Pender since 1982 combines behavioural science and nursing with an expanded view of health which is not limited to the absence of disease, functional limitations or lack of adaptation (Pender et al., 2006). This is known as the 'Health Promotion Model' (HPM), and it concentrates more on achieving high levels of well-being and self-actualization, although the base requirements need to be attained prior to a patient's self-actualization development (Pender, 1987).

HPM has been shown to assist nurses in gaining an understanding of the major factors, including social factors that determine health behaviours which creates the foundation for future counselling and promoting health (Pender, 2011). Moreover, an individual is believed to be more self-motivated through using HPM. The bio-psychosocial structure of people will adapt and transform to suit a given environment. Therefore, the way in which healthcare workers interact with the patient is vital to the interpersonal environment, although a patient's behaviour development needs to be self-motivated in order to be truly beneficial (Pender, 1996).

### ***Health-belief model (HBM)***

In the early 1950s, various health-screening services, such as vaccines, were administered publically (Pender, 1987), although a small percentage of people did not partake in these new initiatives. Subsequently, a framework was identified to understand the reasons behind opting into new health services or not, and this created a foundation for HBM to examine the health and behaviour of patients (Janz & Becker, 1984).

Health behaviour is initially predicted and described through a psychological model, which is structured by documenting how a person thinks or their personal attitude. The model is broken down into four distinct sections relating to an individual's beliefs. First, perceived susceptibility helps people to understand their risk. Secondly, the perceived severity of a problem and its consequences need to be explained. Thirdly, the perceived benefits relate to how a person can minimise their risk or level of illness by taking action. Lastly, there are perceived barriers when the negative aspects of health become obstacles to following recommended behaviour (Janz & Becker, 1984).

Pope (2011) identifies that the benefit of HBM is that people's health choices are based on emotions, habits, social conditions and personal preferences. This facilitates the selection of effective social teaching methods concerning healthy habits. However, HBM does not consider the economic and environmental factors that may influence health conditions. Rather, it is limited to risky health behaviours, such as 'smoking'. This represents a limitation, however, as it is clear that beliefs can influence a person's decision to smoke but do not influence whether that person will develop lung cancer. Consequently, this model helps health professionals, including PHC nurses, to develop education programmes aimed at changing behaviour, but it does not increase the knowledge of how to treat/ deal with health problems after they have occurred.

Having outlined several key models of health promotion, along with some examples of their adoption, the next section will illustrate the relationship between these models and the current study.

### **Relationship between the models and the present study**

As the above discussion highlights, there is no single model that is exactly suited to the aims of the present study. With Pender's model (1987), for example, it is not entirely clear how it is to be used in different cultural environments. According to Peterson and Bredow (2009) the model requires an explanation of how it works for nurses in multicultural countries, such as in S.A. where there are many people with different cultures and behaviours, and important gender differences. However, Pender's model (1987) helps nurses to understand the surrounding variables, and this is an essential aspect in health education.

A strength of Tones' model (2000) is that it offers an understanding of how policy impacts on health promotion, including cultural and socioeconomic factors. This is important, as competencies have to be approved by policy makers in order to be implemented effectively. Also, Tannahill's model (1984) may be helpful due to the way in which Tannahill emphasizes the role of health education in the process of health development. The three models of Pender (1987), Tannahill (1984) and Tones (2000) support the current study as health education is the main subject. Conversely, HBM does not suggest a way of changing health behaviours as it focuses more on confirming the ways in which beliefs and attitudes influence health behaviour. Based upon the above review, the models of Pender (1987); Tannahill (1984) and Tones (2000) can help to identify health education competencies for PHC nurses, especially

in the specific context of S.A. where the religion of Islam significantly shapes everyday experiences. Following this discussion of health promotion models, the next section will explore the processes involved in health promotion/health education.

## **Processes of health promotion/ health education**

As stated earlier, health promotion is an umbrella term, of which one element is directed towards health education (Whitehead, 2001). Naidoo and Wills (2000) illustrate a health promotion framework whereby there are three distinct levels of health promotion within national health policies. For example, primary prevention aims to avoid the development of illness by measures such as immunization and education about lifestyle choices to prevent illness and promote health. Secondary prevention seeks to minimise illness periods and stop an illness progressing via prompt diagnosis and care, such as screening, for example breast cancer and cervical screening, along with screening for new born babies. Tertiary prevention has the aim of reducing further complications of irreversible conditions following health breakdown, through such measures as cardiac rehabilitation. Overall, these levels of health education are delivered simultaneously, together with the component of health promotion (Reisinger, Hunt, Burgo-Black, & Agarwal, 2012).

The delivery of health promotion is explored by Bennett and Glasgow (2009) through either programmes that are formal (i.e. smoking clinics), or opportunistic health promotion through the intervention of nurses when they meet a patient, or via any other chance encounter. For example, when recording the vital signs of patients, nurses can provide general health education to help patients maintain the optimal level of health. Moreover, interventionist strategies can be adopted by nurses to help a patient focus on lifestyle improvement through diet, exercise and stopping smoking. Nonetheless, when prevention is too late, the method will be directed towards control and limitation of possible complications, as in diabetes or cardiovascular disease (Irvine, 2007).

Since the 1980s, health education has been part of legislation in various countries around the world, as it was shown that providing patients with health information and detailed treatment options enhances patient rights (Deccache & Aujoulat, 2001). It has been stated by Hoving et al. (2010) that overall health in Europe and North America improved during the 1980s, as lifestyle alteration behaviours, directly instilled by health education from healthcare professionals, provided a new health paradigm. Similarly, educational technology improved



throughout this period, particularly in the form of videos for patients and presentations. Hence, to take one example, diabetic patients could be provided with a CD explaining foot care. These trends helped to improve the overall process of health education through informing behavioural changes that led to enhanced health in general (Hoving et al., 2010).

Deccache and Aujoulat (2001) explored how health education is delivered through different means, e.g. in the UK, the National Health Service (NHS) offers “walk-in centres” for advice and treatment. The practice nurse (PN) is the nurse who works in GP practices, following a post-qualifying course after attaining registered nurse status. The PN is responsible for assessing, screening, treating, and educating all parts of the community. The skills of communication and active listening are important to the PN as these skills are significant in providing health education. In Sweden, an innovative approach is used whereby, there are learning groups based on the health education system called “study circles” (Deccache and Aujoulat, 2001). In Estonia, and other European countries, WHO networks of health-promoting hospitals deliver a framework for health education within hospital activities. For example, in Netherlands and France, patient education is the responsibility of the hospital medical specialists, including nurses, doctors, and other health professionals.

This whole process of health promotion/health education as illustrated through the frameworks above is believed to develop a sense of individual control over one’s health, which is vital for a nurse in PHC. For instance, health education in the UK is shown to be an essential part of a PHC nurse’s duties, whether that is through prevention at primary or secondary level (Bennett & Glasgow, 2009). Within the area of clinical practice, these nurses are capable of linking their initial practice of care with enhancing a patient’s health by actively promoting health, which aids in preventing further illness (WHO, 2000).

## **Approaches to health education**

Within health education, it has been suggested that five mains, distinct theoretical approaches can be identified (Ewles & Simnett, 2003). Firstly, the medical approach aims to prevent and early detection of diseases rather than treatment. Such as, cancer, or heart diseases, through the development of medical interventions. Measures of pursuing these aim include utilising family-planning services, and supporting parental understanding of the importance of vaccinations for children. Secondly, the behaviour-change approach seeks to alter an

individual's attitude and behaviour by showing them how to implement a healthy lifestyle through such actions as anti-smoking education for youngsters. Thirdly, the educational approach has the objective of instilling knowledge and information into people in order to increase their awareness of health benefits and detriments for themselves. Naidoo and Wills (2000) argue that the educational approach differs from the behavioural approach as the former does not use encouragement to achieve its aim. An example of this approach is providing information in schools on the health effects of smoking. Fourthly, the client-directed approach seeks to raise people's concerns about their health by understanding solutions they can implement, so that they are not reliant on the advice of health professionals, although the latter can play an important role in providing a framework for patient self-improvement. For instance, in the case of smoking, a patient will be able to take actions for improvement if they receive guidance about what they need to do and what they need to know. Lastly, the social-change approach aims to improve health via policy support for lifestyle choices, such as no smoking policies and taxation.

All of the five approaches are important to identify the competencies of health education for PHC nurses, however the context of S.A. is culturally specific. Unfortunately, none of the previous approaches have discussed culture; this is a key omission. According to Ansari (2012), health education may not address health problems if it is not consistent with cultural norms. For example, indigenous Australians have limited opportunities to participate in health-education programmes because Australia is considered to be a multi-layered society. Therefore, intense work and efforts are needed to implement policy reforms and provide appropriate motivation for this group of people to take part in health-education programmes. S.A. is a multi-national community as explained in the first chapter, which emphasises the need to provide health education that can be suitable to all people in the community.

## **The emergence of primary health care in health services development**

This section offers a brief history of PHC, before discussing the scope of PHC. Historical factors may influence the processes involved in PHC, and awareness of these can help to shed light on the ways in which PHC operates today.

### **History of primary health care**

The history of PHC goes back a long way. In 1920, some early reports in the UK started to distinguish between three levels of health services, including primary health centres, secondary health centres and teaching hospitals (Jones, 2004). Cueto (2004) describes how primary healthcare was an emerging concept during the Cold War decades of the 1960s and 1970s. Throughout this period a 'vertical health approach' was utilised by US agencies to combat malaria, although there was criticism of this approach from the WHO at the time. Elzinga (2005) explores three components of vertical programmes, starting with an intervention strategy as a way to deal with health problems, followed by monitoring and evaluating the influence of a strategy on a population. Finally intervention delivery was used depending on the disease involved and the health system of the country, e.g. vaccinations against polio.

In the 1960s, health systems in developing countries were criticised as they were deficient in the concept of "prevention" and were dependent on the hospital sector, regardless of the presence of PHC services (Bryant, 1969). It is clear that PHC is considered to be a means of health promotion and disease prevention (Ross & Mackenzie, 1996), and so a reconsideration of and increased support for PHC were required. This was particularly important, as at the time it was estimated that more than 50 per cent of the world's people had no access to healthcare through different organisations (Bryant, 1969). Eventually, these concerns found expression on the international stage. In 1978, the WHO International Conference on Primary Health Care, in Alma-Ata drew attention to the need for urgent action by all governments, all health policymakers and the world community to protect and promote the health of all the people in the world (WHO, 1978).

The definition of primary healthcare used by the WHO was "essential health care that is based on scientifically sound and socially acceptable methods and technology, which make universal health care universally accessible to individuals and families in a community. It is through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination" (WHO, 1978, p.3). After the declaration of Alma-Ata, PHC was shown to have objectives with a clear focus to deliver both curative and preventative services for health in order to improve the entire health status of the community (Roemer, 1972).

### **Scope of primary health care**

The scope of primary healthcare, according to Jones (2004), includes: health education and the prevention of health problems; the promotion of nutrition and food supplies; immunization against infectious diseases; the provision of essential drugs; family planning, child and maternal healthcare; appropriate treatments for common diseases.

The initial contact that a patient from the community has with healthcare is now embedded directly through PHC services, which incorporate the full remit of first 'point-of-call' services. Hence, PHC as the first point of contact is seen to be vital in providing the public with an adequate level of health. If this first point of contact cannot be consulted successfully this has ramifications for referrals to secondary health care. This is of course an integral factor in the function of any complete system of healthcare globally. It is also highlighted that the population at large needs to be able to access PHC on demand, irrespective of their social status or location (Kleczkowski et al., 1984).

It is, however, expected that the definition and scope of services may vary from one country to another based on the level of industrialization, the philosophy of government, the evolution of health care services and the wealth of the community and the country (Jones, 2004). In addition, it has been demonstrated that PHC is necessary in four distinct areas (Bradley & McKelvey, 2005). Firstly, that PHC services provide knowledge at a local level. Secondly, they engage in the promotion of health alongside curative services. Thirdly, as PHC is usually the first point of contact for patients, it plays a vital role in health advocacy and overall community collaboration on a local level. Fourthly, PHC has also created new approaches that help to support the health of the public, which supports the need to understand a patient's health history and work at a multidisciplinary level.

The distinctive factors that help to deliver comprehensive PHC are referred to by Magawa (2012), who states that they are administered through the implementation of legislation that facilitates efficient and cost-effective healthcare interventions, as well as community and individual participation. Hence, the development of PHC programmes or strategies requires direct and enduring government commitment. Such commitment was evident in Tanzania, in 1978, when the government initiated a detailed healthcare strategy for PHC involving major increases in both their facilities and the staffing levels of qualified professionals (Magawa, 2012). Further, the government laid the emphasis on PHC facility development in rural areas of the country to provide enhanced preventive health services. Subsequently, these policies, when implemented in the community, reduced child mortality, although high levels of community participation were seen as a key factor in this success (Magawa, 2012).

## PHC policies

The role of PHC policy has begun to emerge from the previous sections. However, a more explicit discussion is necessary to understand the role of policy. Without a framework in place, it is difficult to offer intervention, prevention and treatment in a large-scale systematic way. The Saudi PHC policy needs to consider a two-part strategy for PHC implementation, which was identified by Littlewood and Yousuf (2000). This involves intervention before diseases present themselves through lifestyle alterations in the community, alongside illness-prevention tactics that can also link to detrimental delays in treatment. This strategy has taken the form of immunization programmes for the whole community, nutritional guides for children and mothers, and active community programmes.

More generally, it has been suggested that the determinants of success or failure, for any PHC programme, can be summarised as eight principles that any healthcare strategy must adhere to (Dennill, King & Swanepoel, 1998). (1) 'political commitment' provides progressive political rules for a health system's success; (2) 'integration' promotes a service which is curative, as well as prevention and rehabilitation based; (3) 'equity' emphasises equality in healthcare access for all; (4) 'accessibility' states that each individual must benefit, regardless of location, financial issues or access difficulties. Moreover, (5) 'affordability' and (6) 'availability' highlight that the ability to pay should never be an issue for any individual and that each community must be provided with sufficient services as necessary. Likewise, (7) 'effectiveness' and (8) 'efficiency' specify that services must be delivered as intended and accomplished by the correct resources. Policy is clearly a key factor which interlinks with and facilitates these principles. More specifically, it helps to create the institutional framework through which the principles can be pursued. Taking accessibility for example, achieving the principle in practice requires considering the relationship between PHC and the wider economy, and mapping out rules and strategies (i.e. a policy) based on this relationship.

Along with such considerations, developed from the international context, it is important to consider policy and practice within S.A., the location of the present study. S.A. has experienced changes in disease patterns that have brought it in line with those in the developed world, and there have been developments in non-communicable diseases in the country that have resulted in improved levels of life expectancy. This has risen to 72.5 years

for men and 74.7 years for women. Moreover, these developments can be attributed to dietary and lifestyle improvements too, although there have been significant increases in chronic diseases, including various types of cancer, childhood obesity, diabetes and heart disease (Al-Turki, 2000).

The healthcare system in S.A. faces many challenges, which include: developing the healthcare workforce, finance, alterations in disease trends, access to health services, incorporating beneficial health insurance, the growth in private hospitals, electronic health (e-health) development policies, and the implementation of a national system for health information (Almalki et al., 2011). It has been shown that the quality of nursing in the public health sector of Saudi Arabia needs to be improved as the population rises and the profession of nursing develops (Jradi, Zaidan, & Shehri, 2013). The overall population in Saudi Arabia was increasing at a rate of 2.7 per cent in 2013, although indigenous growth stood at 2.15 per cent (CDSI, 2014). Therefore, reforms to the healthcare system in S.A. depend on strategies to attract more native health professionals, and specifically into nursing.

Thus, Almalki et al., (2011) explained that PHC services were developed through a project led by the Ministry of Health in Saudi Arabia, in accordance with the WHO (1978). As a result, PHCCs were established across the country, starting in 1980, as stated by a new ministerial decree, and existing PHC facilities integrated with the new system. These facilities had various uses, e.g. child health centres, health offices and dispensaries were all integrated into the new system.

In 1993, PHC guidelines were set out in S.A. that aim to provide immunization, the management of chronic diseases, infant care, health education and communicable disease management, as well as improvements to environmental health. Following this, a management programme was developed to improve techniques and quality within PHC after 1995, alongside other quality improvement measures that include different protocols for treatment and the development of staff (Al-Ahmadi & Ronald, 2005).

Furthermore, Almalki et al., (2011) also described that PHCCs strove to incorporate eight distinct components of the PHC approach. The first component is educate the community in relation to prevention and control methods for illness; through health education provided by PHC nurses. Then, providing sufficient sanitation and water supplies; as these are vital and

one of the challenges that PHC services faced (MOH, 2009). Also, delivering adequate nutrition; to maintain good health for people in the community. Including comprehensive maternal and child healthcare; this is a major part of the PHC services in S.A. Moreover, providing immunization against serious communicable diseases, and prevent or control local endemic diseases by immunisation and health education. Administering the best treatment for common diseases; and finally, making sure that essential drugs are accessible, where PHCCs are the place for assessment, treatment, and rehabilitation.

A key goal of Saudi PHC is to focus on health promotion. The Saudi PHC strategy aims to provide more investment in the education and training of nurses, to ensure that they are competent in the delivery of health education. As stated, culture is an important issue in the process of health education; this leads the PHC nurses to select ways which are relevant and efficient to the community (Qureshi et al., 1996). According to the MOH's strategic plan (2009), one of the challenges facing PHC services in S.A. is the change from a largely rural to urban population which can be addressed by building new medical centres in the cities and improving IT and networks across the country. However, this challenge was addressed before this time by Qureshi et al., (1996). They identified seven strategies to advance the development of PHC in rural areas of S.A., which are:

1. The restructuring of PHC services, which will help to coordinate different sectors through developing new programmes for the requirements of the community, with better accessibility to current PHC centres, and an increase in the number of PHC centres in rural areas;
2. Through training and educational development for PHC professionals, so that the commitment will be boosted to achieve further health objectives;
3. Political support for social equity, which will allow better distribution of resources to rural populations, and Saudi health planners are to endeavour to provide full support to the whole community, although this is a monumental task;
4. Improvement to community awareness of health, so that people become aware of the necessary actions and relevant treatment they need through health education, which is to be provided in a simple and accessible manner;
5. Health system collaboration with different sectors of relevance, which will increase the awareness of various social factors, such as agriculture, communication,

economics, education, housing and transport, with a focus on conjoined benefits for the development of the nation's economy and health improvement;

6. Communities participating by becoming involved in health programmes, which will allow a community to define health issues in order to implement strategies and evaluate available resources to encourage enhanced responsibility, which will spread to an awareness of others' health;
7. Introduce the correct and appropriate utilisation of technology within the health system.

On 7 June 2011, through its spokesperson Dr. Khalid Marglani, the Ministry of Health announced that a PHC strategy had been approved to implement existing priorities which aimed to enhance the quality of service and the level of patient satisfaction. Moreover, various strategic objectives were outlined which were designed to reduce the struggle against disease in society through implementing health services in PHC that are preventive, curative and rehabilitative. With the continual development of PHC, the MOH aims to establish a sufficient health service for everyone. Furthermore, Dr Marglani added that the needs of the community would be addressed through the construction or improvement of PHCCs across the entire country to deliver cost-effective health services for all. It was also stated that the ministry's financial budget would allow for sufficient geographical hospital distribution and health centres, as well as provide sufficient bed space, alongside the control of pharmaceutical administration (MOH, 2011).

The Ministry of Health has attempted to instil up-to-date methods of health provision through strategic planning so as to develop the entire healthcare system to become more patient-centred from initial contact within PHC, up to the provision of specialised care and treatment. Throughout this process, the rights of all patients must be adhered to, which can include various intricate issues. For instance, there must be communication with patients regarding their illness and possible options for treatment, including choice of physician, which is to be administered through the constant delivery of respectful care. Therefore, in recent years, these policies have been actively practised and developed, as the MOH has implemented new and thorough approaches to healthcare to provide a better service throughout the country, and these have been included in the Integrated and Comprehensive National Healthcare Project (MOH, 2012).



## **Primary health care nursing**

Policies must be interpreted and implemented, and so it is important to discuss the role of the PHC nurse. Indeed, to understand competencies for health education, there is a need to clarify the type of work that the health education is aimed at.

Nursing is defined by the International Council of Nurses (ICN) (2014) as care directed to people of any age, group or social background, whether they are perceived as healthy or not. This practice of care includes health promotion, the desire to prevent infirmity, overall healthcare and care for the disabled and terminally ill. Moreover, it is essential for a nurse to ensure a patient's safety, engage in research and make policy contributions (both for patients and health systems). The professional acumen of nurses in promoting health, as stated by Brobeck et al. (2013), is part of the essential nature of the clinical practice of nurses in the development of health promotion. It is shown by the WHO (2011) that, through policy implementation and intervention to decrease risk, the majority of non-communicable diseases are preventable. Hence, health-promotion practice (HPP) plays an integral part in the total sector of health and medical care (Whitehead, 2009). Furthermore, the most prominent professional group, i.e. registered nurses, continuously develops HPP in clinical practice.

PHC is a vital element in the delivery of any healthcare system in the world (Pullen et al., 1994). Thus, in order to improve on the disjointed and often detrimental approaches found in different levels of healthcare, a well-structured PHC system is required. Moreover, it is essential to analyse the indelible factors that underpin PHC, such as specific services, the development of care and the assessment of health, as well as delivering community needs-based intervention. Similarly, PHC offers vital services for the promotion of health through nursing in order to pursue disease prevention and illness cures. This nursing practice constitutes health promotion and education, alongside counselling for health improvement. Furthermore, registered nurses, in their care role as skilled professionals, deliver competence and effectiveness in health education, the prevention of illness and rehabilitation. Nonetheless, certain factors are not so prevalent in PHC nursing practice, such as finance policies, state restrictions and medical resistance (Pullen et al., 1994).

Various studies have shown that interventions can be implemented via practising nurses in PHC that can reduce behavioural risk (McPherson et al., 2002). For instance, smoking levels and hypertension conditions have been effectively reduced through implementing programmes that incorporate the education of patients through nurse counselling alongside

risk assessment. Further, PHC nurses undertake the roles of enrolled, registered and practitioner nurses, as specified by the Australian Primary Health Care Nurses Association (APNA) (2012). PHC nurses need to exercise various responsibilities that cover the functions of ethics, legality and professionalism, as for all nurses. This development of responsibility requires adequate acquired knowledge, individual and group rights adherence, and recognition of their own practice, which follows the legal guidelines that cover nursing and healthcare (APNA, 2012).

According to White (2015), the main two components of sustainable effective health systems are, public health and PHC. WHO (2016) defined public health as all organised methods to promote health, prevent diseases, and extend life among the population. It is wider than PHC, as it require cooperative action from society; health professionals, administrators, social workers, engineers, and scientists, along with effective relationship with the government (White, 2015). In order to understand, nursing within public health, there is an example of The American Public Health Association (APHA) (2012) that defined public-health nursing (PHN) as existing to ensure an individual's health is promoted and protected through informed knowledge which comes directly from nursing, society and the science of public health. Moreover, PHN is vital for support and care in the community, overall surveillance, and health education and research. Hence, it is imperative that public health interventions help to raise health levels and assist in disease prevention, through health behaviour being improved by health education. It is has been shown how nurses in PHC need to engage in ecological interventions that can promote better health through the implementation of better sanitation and protective factors of immunization or screening.

The present research hinges on the belief that the most efficient, acceptable and financially beneficial system of healthcare is implemented through the joint collaboration of healthcare professionals and the community. This is a view shared by the British DOH, where nurse involvement in community health, health protection and the promotion of health are viewed as three key functions for nurses (DOH, 2002). Likewise, a prerequisite for any professional nurse is to become registered, as shown in the NHS's required skills for nursing (2014). This highlights that improved communication, alongside observation, is achievable through trained listening and interaction with a patient. Furthermore, the ability to provide information and advice is a nursing requirement, as the nurse is the main medium of contact for a patient. Thus, nurses need to be able to communicate and inform patients and their relatives, as well as the care team, about any developments.

## **Conclusion**

The overall concepts of health have been outlined in this chapter, with specific reference to the intricacies involved in the promotion of health and health education. In this study, health education concerns the PHC setting and the Saudi MOH's definition of health education is used, as explained earlier, despite health education being one element of health promotion. An explanation has been provided of several models of health promotion that are relevant for the current research study. Pender's model which was developed in 1982 (2011) is the model that is used in nursing practice, but cannot be fully adopted in S.A., due to the deficiency of the cultural issue in this model. This chapter has presented the process and approaches to deliver health education accompanied by examples from different countries. Furthermore, this chapter explained the historical background and the scope of PHC. This chapter has demonstrated PHC strategies and the regulations that apply, on both a national and global scale; and as outlined in this research investigation, new concepts of competency for PHC nurses to practice health education are considered essential within the overall study. The last section in this chapter explained the role of nurses in the PHC setting, as health education is one of the task for these nurses. A literature review will be conducted in the next chapter.

## **Chapter Three: Literature Review**

### **Introduction**

A literature review is defined as “the identification and analysis or review of the literature and information related to what is intended to be studied” (Blanche et al., 2006, p.480). It is necessary to carry out a review of the literature to enable the researcher to learn from previous studies on the topic. Reviewing the literature highlights the gaps in previous research, and may also help the researcher to re-focus or change the topic (Boote & Beile, 2005). This chapter starts with an explanation of the comprehensive search strategy employed in the two stages of the research process before critically appraising the retrieved studies. While a number of relevant studies are identified, which can provide a foundation for the present study and outline the need for improved education in primary health care, no studies were identified which systematically investigate the health education competencies across the range of areas in which PHC nurses work.

### **Comprehensive search strategy**

Greenhalgh (2014) explains a systematic review as being an overview of primary studies, including a statement of the objectives, materials and methods. A systematic review is conducted according to explicit, transparent and reproducible methods, which means that it focuses on a topic within strict criteria parameters. In the present study, a systematic search strategy is employed. Brettle and Grant (2004) explain that this is a search strategy used to find evidence related to professional practice. This includes various stages, starting with clearly defining the key research aims and objectives, and followed by setting inclusion and exclusion criteria, identifying relevant sources, conducting a search based on clearly identified keywords, searching and filtering the results based on a systematic approach involving combining keywords to narrow down the results, and reading abstracts to identify relevant articles. Within this study the search strategy was divided into two parts, as is the review itself: (1) knowledge, skills, and attitudes of PHC nurses regarding health education, and (2) education and training to improve PHC nurses practice of health education. This approach was chosen as preliminary scoping of the literature suggested the use of training courses to improve the practice of health education for PHC nurses. The search process was guided by Brettle and Grant’s (2004) systematic search strategy, along with a critique

conducted within a defined framework developed by the Health Care Practice Research and Development Unit (HCPRDU) (Long et al., 2002a & 2002b).

### **Part one: Knowledge, skills, and attitudes of PHC nurses regarding health education**

As the aim of this study is to identify the competencies that underpin a primary healthcare nurse's role as a health educator in Saudi Arabia, a systematic search strategy was employed to identify and appraise relevant literature that describes the knowledge, skills and appropriate attitudes for nurses involved in health education with respect to their roles in PHC. This approach is in keeping with the definition of competency adopted for the research study, as comprising knowledge, skills, and attitudes. The literature was selected and reviewed according to the inclusion criteria. Some studies were excluded from this review as they were not sufficiently relevant to the research in hand, did not cover the actual purpose of the study, did not meet the inclusion criteria, or are discussed elsewhere in this thesis. As an example of the latter, research relating solely to the physician's role as a health educator, or the hospital context of health education, was excluded from this chapter as health-education concepts and processes were examined in detail in Chapter Two, along with supportive examples from hospitals. The setting for the present study is PHC, hence the literature search focused on studies which at least partly focused on this setting, along with studies that followed the Saudi Strategic Plan for Primary Healthcare Nursing (MOH, 2012). This stresses that all nurses should be competent in all aspects of nursing practice, including health education. This led the researcher to focus on literature that investigates the experiences of PHC nurses. However, some literature was based on the responses of physicians, other health professionals including PHC nurses, and PHC patients. These studies were included in the review as they included PHC nurses in their sampling criteria, or focus on the practice of health education provided by PHC nurses. More generally confirmed that health education is a responsibility of all PHC professionals.

### **Part two: Education and training to improve PHC nurses practice of health education**

The second part of the review explains and critiques studies concerned with training as a means to improve PHC nurses capability with regard to health education. Training is the main suggestion/ recommendation when aiming to boost the level of knowledge, skills and attitudes of PHC nurses regarding health education, as this will in turn improve the health outcomes for patients and reduce the complications of some chronic diseases such as diabetes and hypertension.

## Search process

### Search part one

The aim of this section is to highlight and critique literature which identifies deficiencies in the knowledge, skills and attitudes of PHC nurses regarding health education, with a focus on the inclusion/ exclusion criteria explained below in Table 3.1. The inclusion criteria included research based on quantitative, qualitative, and mixed methods in order to capture the wider range of studies in PHC settings. In addition, the historical background of the literature that studied knowledge, skills, and attitudes of PHC nurses regarding health education was included. The Saudi MOH strategy that identified the challenges facing PHC services was published in 2009, and as such, a decision was made to include literature from 1995 to 2016 in order to capture the context leading to the changes and to understand PHC prior to publication of the strategy. A further inclusion criterion was that the studies should be written in the English language. This did not mean that the study excluded research from S.A., however, as all formal academic studies in the medical field are published in English in S.A., as English is a key medium for publishing and teaching (El-Sanabary, 1993). Moreover, it is essential to focus on studies that examine knowledge, skills & attitudes of PHC nurses regarding health education as these three components are considered part of competency. The study sampling frames included PHC nurses either alone or with other health professionals or patients alone, as these (PHC nurses) are the target group for this study. The final inclusion criterion was that the PHC setting rather than hospitals should be the focus of any study, due to the context of this particular research and due to the importance of the health education process in PHC, which is the first point of contact with people in the community as discussed in the previous chapter.

**Table 3.1. Inclusion and exclusion criteria for articles for part one**

<b>Inclusion criteria</b>	<b>Exclusion criteria</b>
<ul style="list-style-type: none"><li>* Use a qualitative, quantitative, or mixed method approach as a research method.</li><li>* In English.</li><li>*Published between 1995 and 2015.</li></ul>	<ul style="list-style-type: none"><li>*Exclude policies, essays, review papers, clinical reports &amp; assignment papers.</li><li>*Articles that describe the hospital nurse's practice of patients' health education. (as explained in the second chapter).</li></ul>

<p>*Studies focusing on the skills, knowledge and attitudes of PHC nurses regarding health education for different topics or subjects.</p> <p>*Regardless of the sample of the studies, they should focus on the skills, knowledge and attitudes of PHC nurses regarding health education.</p> <p>*PHC as a setting for the study or accompanied by hospitals or other settings.</p>	
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Policies, essays, review papers, clinical reports and assignment papers were excluded in order to focus on high quality studies with methodological rigour, published in peer-reviewed journals. A further exclusion criterion was studies that describe hospital nurse's practice for health education, due to the variation among nurses who work in hospitals and in PHC settings.

### **Search strategy for part one**

A systematic strategy was used for a search of the "CINAHL & MEDLINE", "PubMed", "PsycINFO", "ERIC" and "ProQuest Dissertations and Theses, British Nursing Index, & ERIC" central library databases for work published between 1995 and 2015. The search was carried out using a combination of key words (free-text searching) that identified sources on knowledge, skills, and attitudes of PHC nurses regarding health education. The strategy was slightly adjusted to meet the specific functions and terminology of each particular database (Table 3.2). A total of 393 studies were found, of which 17 were retained as satisfying the inclusion criteria, which is explained above in table 3.1. The review process was conducted by the researcher and involved reading the abstracts of each study and keeping electronic copies for the studies included in the first part. The remaining sources did not satisfy the inclusion criteria in terms of sample and setting, e.g. the sample was not nurses and the focus was on another setting, such as hospitals.

**Table 3.2 Search strategy for part one**

Source searched	Keywords	No. of studies identified	No. of studies selected
CINAHL & MEDLINE	Health education	129	5
PubMed	Patient/client teaching		
	Patient education	175	10
PsycINFO	Patient instruction		
	Nursing skills	19	0
ERIC	Nursing attitudes		
	Nursing knowledge	2	2
	Nursing competencies		
	Primary healthcare		
	PHC centres		
	PHC nurses		
ProQuest Dissertations and Theses, British Nursing Index & ERIC	Community nurses	68	0

**Description of the studies retrieved**

A total of 17 studies were retrieved (13 quantitative and 4 qualitative) with the majority conducted in S.A. (8 studies). The number of Saudi specific studies appeared to support the research aim within this study, as the Saudi studies identified the need to boost the knowledge, skills and attitudes of PHC nurses regarding health education. While the Saudi studies may be particularly relevant, as they share the same cultural context and health system, five studies were conducted in Europe, (including three in Scotland), two in Oman and one in each of Brazil and New Zealand. It is important to note that these articles focused on a variety of subjects, such as physical activity, diabetes, hypertension, heavy drinkers, intellectual disabilities, smoking and breastfeeding, among others, but all of them emphasised the importance of boosting the knowledge, skills and attitudes of PHC nurses regarding health education. A study conducted by Melville et al. (2005) which found that 45 per cent of practice nurses in Greater Glasgow, Scotland had never received any training specific to working with people with intellectual disabilities. Additionally, half of the PHC nurses and



physicians in two Finnish cities reported the desire for more training regarding ‘brief interventions for heavy drinkers’ (Aalto et al., 2001). There is a need to increase the knowledge, attitudes and practices of members of the PHC nurses in relation to smoking and quitting smoking in later life. This was a key result from a study conducted in Scotland by Kerr et al. (2007).

Four of the studies from this stage of the review examined the practice of health education toward diabetes in an indirect way as the results indicated the need to develop the practice of health education for PHC nurses (Abdulhadi et al., 2007 & 2013; Al-Khaldi, 2008; Torres et al., 2010). Women’s health during pregnancy, breastfeeding, and breast cancer were essential subjects for studies (Al-Amoud, 2003; Gandehe & Milaat, 1999; Rasheed & Al-Sowielem, 2003; Yousuf et al., 2012). These studies concluded that PHC nurses demonstrated poor knowledge, and practice for health education. Another study highlighted the health educational activities in PHC centres in Riyadh, Saudi Arabia. The result found that the majority of participants were not satisfied with the health-education activities provided in PHCCs. As these patients complained of chronic illness that need health education in order to manage their conditions and prevent the onset of the complications (Alnaif & Alghanim, 2009).

A wide range of factors impeding knowledge, skills, and attitudes were identified. Two of the studies examined the lack of time spent on the health education process as a barrier (Douglas et al., 2006; Gilmour et al., 2014). Another barrier identified was communication, either verbal or non-verbal (e.g. poor attention and eye contact or aggressive attitudes towards patients) (Abdulhadi et al., 2007; 2013). Workplace environments played a major role in the process of health education accompanied by managerial support as explained by Bergh et al. (2012). This study found that the most usual setting for PHC nurses to provide health education to the patient was in a private room. Two studies stressed the need for further training activities and education for PHC nurses in S.A. in order to improve the quality of working life among PHC nurses and this will positively affect the health education process (Almalki et al., 2011; Al-Omar & Bin Saeed, 1998). The Saudi studies may help the researcher as they share the same cultural context and health system. A summary of the studies included is shown below in Table 3.3.

**Table 3.3 Summary of the studies included for part one**

Author(s), place and date	Study title	Method	Sample	Results	Strengths	Limitations
Aalto M., Pekuri P, Seppä K  Finland 2001	Primary healthcare nurses' and physicians' attitudes, knowledge and beliefs regarding brief interventions for heavy drinkers	A questionnaire on attitudes, skills, knowledge, training needs and suggestions for the implementation of brief interventions	All nurses and physicians working in primary healthcare in two Finnish cities, 167 primary healthcare nurses and 84 physicians returned the questionnaire	Only 18% of respondents reported having enough knowledge to conduct competent brief interventions and half of respondents reported a desire for more training	Appropriate method as it achieved the aim of the study,  high response rate	No specific limitations found.
Abdulhadi N, Al Shafae M, Freudenthal S, Claes-Göran Östenson C- G, Wahlström R  Oman  2007	Patient-provider interaction from the perspectives of type 2 diabetes patients in Muscat, Oman	Qualitative study using four focus groups.	27 patients from six PHC centres	The patients identified some weaknesses regarding patient-provider communication. Inability for them to participate in medical dialogue	Appropriate study design and data collection  Clear presentation of findings and rigorous discussion.	No specific limitations found
Abdulhadi N, Al-Shafae M, Wahlström R, Hjelm K  Oman  2013	Doctors' and nurses' views on care of patients with type 2 diabetes: an interview study in primary healthcare in Oman	Semi-structured interviews	26 healthcare professionals who worked in PHC centres  19 doctors and seven nurses, who worked in primary health care in Oman.	The main barriers affecting diabetic care are related to the health organization	Appropriate Sampling and design	Changes in times of data collection might affect the transferability of findings
Al-Amoud M  Saudi Arabia 2003	Breastfeeding practice among women attending primary healthcare centres in Riyadh	Quantitative questionnaire	1,000 questionnaires  922 completed  (mothers with last-born child who attend a well-baby clinic)	BF health education in PHC centres does not encourage breast-feeding.	Clear discussion of the results and how they impact on the health outcomes of patients	No official numbers of patients attending PHC centres
Al-Khaldi Y  Saudi Arabia 2008	Foot care among male diabetics in a family practice centre, Abha, Saudi Arabia.	Questionnaire and physical examination of feet	107 patients (males)	Patients were unaware of the negative effects of DM on feet, which resulted in unhealthy behaviour vis-à-vis foot care	Suitable questionnaire as it contains the major items that affect foot care in Saudi Arabia	Sample was only males
Almalki M, Fitzgerald G,	Quality of working life among primary healthcare	Cross-sectional survey	134 registered nurses in PHC centres in Jazan	Findings suggest that respondents were dissatisfied	Method potentially applicable to the aims of	No specific limitations found

Clark M  Saudi Arabia 2011	nurses in Jazan region, Saudi Arabia:  a cross-sectional study			with their working life.  Lack of professional development opportunities was one influencing factor.	the present study  High response rate.	
Alnaif M & Alghanim S  Saudi Arabia 2009	Patients' knowledge and attitudes towards health education: implications for primary healthcare services in Saudi Arabia	Self-administered questionnaire	569 patients from 750 who were selected randomly, response rate of 75.9%	A considerable percentage of patients with chronic conditions lacked knowledge about their illnesses;  the majority reported that they received health education from TV and friends	Real evidence of the need to increase the knowledge of PHC teams regarding health education	Cannot generalize the result due to the place of data collection; items in the questionnaire may affect the results.
Al-Omar B, Bin Saeed K  Saudi Arabia 1998	Factors influencing patients' utilization of primary healthcare providers in Saudi Arabia	Self-administered questionnaire	408 patients in five MOH-PHC centres and five private dispensaries	There are seven factors that significantly discriminate between private and MOH-PHC centres.	Acceptable response rate (81.6%)	Caution in generalizing its findings due to a single area (Riyadh) for data collection
Bergh A-L, Karlsson J, Persson E, & Friberg F  Sweden 2012	Registered nurses' perceptions of conditions for patient education – focusing on organisational, environmental and professional cooperation aspects.	Quantitative cross-sectional survey	701 nurses in primary, municipal and hospital care	The results indicate that more PHC nurses had managerial support compared with those in hospitals, and fewer within municipal settings	Appropriate design and method.  High response rate (83%).  Sampling is large.  Well justified discussion of findings.	No specific limitations found.
Douglas F, Torrance N, van Teijlingen E, Meloni S, Kerr A  Scotland 2006	Primary care staff's views and experiences related to routinely advising patients about physical activity.	A cross-sectional questionnaire survey.	757 participants: 376 (47%) GPs, 212 (67%) PNs and 169 (59%) HVS.	Lack of time & resources were reported as barriers.  Confidence & enthusiasm for giving advice was high, but knowledge of physical activity was low	Clear data findings with discussion	Particular study groups without data about other groups.

Gandeh M & Milaat WA  Saudi Arabia  1999	Knowledge, attitudes and practices of primary healthcare doctors and nurses regarding hypertension in pregnancy	Self-administered questionnaire	36 doctors from a total of 44,  response rate of 81.4%  91 nurses from a total of 120,  response rate of 75.8%	Both doctors and nurses showed poor knowledge and practice concerning hypertension in pregnancy.	High response rate.  Suitable methodology as it focus on the purpose of the study.	No limitations found.
Gilmour J, Strong A, Chan H, Hanna S, Huntington A  New Zealand  2014	Primary healthcare nurses and heart failure education: a survey.	Quantitative cross-sectional survey	Total of 630 respondents, 369 working with heart-failure patients, and 339 provided heart-failure education.	The study identifies the time spent by PHC nurses on heart-failure education, the educational resources used and common topics covered.	Sampling is acceptable.  Response rate (65.5%) is acceptable.  Clear discussion and explanation of the results.	Could have respondent bias.  Unclear on the numbers of sessions and respondents not asked about the quality of education
Kerr S, Watson H, Tolson D, Lough M, Brow M  Scotland 2007	An exploration of the knowledge, attitudes and practice of members of the primary care team in relation to smoking and quitting in later life	Qualitative approach through semi-structured interviews	A total of 41 participated:  7PNs, 12DNs, 6HVs, 16GPs	A need to increase the knowledge of PHC teams regarding quitting smoking	Suitable method used.	Possibility of bias
Melville CA, J. Finlayson J, Cooper S-A, Allan L, Robinson N, Burns E, Martin G., Morrison J.  Scotland 2005	Enhancing primary healthcare services for adults with intellectual disabilities	A purpose-designed questionnaire	201 PNs	45% of the PNs had never received any specific training in working with people with ID	Appropriate method.  High response rate.	Knowledge of researchers by participants could bias responses
Rasheed P, Al-Sowielem L  Saudi Arabia 2003	Health-education needs in pregnancy: a study of women attending primary-health centres	Specially designed questionnaire	581 women in three PHC centres	Physicians and nurses constitute poor sources of health information	Suitable design, and clear description of findings.	No specific limitations found.
Torres H, Rozemberg B, Amaral M, Bodstein R	Perceptions of primary healthcare professionals towards their role in type 2 diabetes mellitus patient	Qualitative focus group	23 health professionals (PHC nurses, physicians, physiotherapists & nutritionists).	The participants reported a lack of preparation in technical knowledge aspects of DM	Appropriate design, appropriate method.  Data collection and	Possible sampling bias

Brazil 2010	education in Brazil				analysis well justified.	
Yousuf S, Al Amoudi S, Wafa N, Banjar H, Salem S  Saudi Arabia 2012	Do Saudi nurses in primary healthcare centres have the breast- cancer knowledge needed to promote breast- cancer awareness?	Quantitative using a self- administered questionnaire	250 nurses	Results reveal nurses' lack of epidemiological knowledge of breast cancer and risks	The method is suitable for purpose,  good presentation of results	No limitations found.

### **Appraisal and quality review of the studies included**

The literature will be analysed and critiqued in order to understand the lack of health education performance for PHC nurses. A systematic approach to quality assessment was adopted to appraise each study against the same criteria facilitating comparative analysis and the scrutiny of study rigour and quality. All included studies were subject to critical appraisal to assess the quality of the selected study within a defined framework developed by the Health Care Practice Research and Development Unit (HCPRDU) (Long et al., 2002a & 2002b). The quality of available literature is discussed within four key areas: study aims, sample, method and results, and these are considered below.

#### **Study aims**

The aims of the (17) studies overlapped with the knowledge, skills, and attitudes of PHC nurses practice of health education. A number of studies (8) examined the views and experiences of primary health care staff, including GPs, nurses and health visitors regarding health education (Abdulhadi et al., 2013; Douglas et al., 2006; Gande & Milaat, 1999; Gilmour et al., 2014; Kerr et al., 2007; Melville et al., 2005; Torres et al., 2010; Yousuf et al., 2012). These studies examined a range of health problems in various national settings, including primary care staff and PHC nurses' views and experiences relating to advising patients about brief interventions for physical activity, hypertension in pregnancy, heart-failure (HF) educational activities, smoking and quitting smoking in later life, intellectual disabilities, diabetes and breast cancer. A ninth study, conducted in Finland (Aalto et al., 2001), aimed to identify the barriers to healthcare providers carrying out competent brief interventions to help heavy drinkers reduce their drinking. The research aims were clear within all studies. Further, the studies were relevant to the present study as they were based on self-reports of PHC nurses. As competencies were identified and developed by PHC

nurses themselves, rather than developed by other stakeholders such as policymakers, this helped the nurses to improve their competencies in practice.

In addition, it was essential to examine the knowledge and the experience of the patients toward their health problems. Four further studies aimed to assess the knowledge of the patients that was developed through health education. These studies explored a variety of health problems, including diabetes, health awareness during pregnancy, breastfeeding practice, and foot care for diabetic patients. Firstly, Abdulhadi et al., (2007) conducted a study to explore the perceptions of type 2 diabetes patients regarding the medical encounters and quality of interactions with their primary health-care providers. Secondly, Rasheed and Al-Sowielem (2003) examined the level of health awareness related to pregnancy and sources of information among women visiting PHCCs in Al-Khobar, in Eastern S.A. Thirdly, Al-Amoud's (2003) study, which examined breastfeeding practices among women attending PHCCs in Riyadh. Finally, Al-Khalidi (2008) assessed the behaviours of diabetic males regarding foot care at the Al-Manhal Centre of Family Practice, Abha, in the Aseer Region of south-west S.A. The context of these studies is S.A. and Oman whose culture is very similar to that of S.A., as both countries have the same religion (Islam) and similar beliefs and customs. Moreover, the health provision in Oman has also developed more recently, which equates to the situation in S.A.

Although there were varied aims amongst the studies, there was consensus that they were conducted in order to explore the health education practices of PHC nurses. Two of the remaining four studies aimed to determine training and education needs for PHC nurses in order to further develop health education processes (Almalki et al., 2011; Al-Omar & Bin Saeed, 1998). Almalki et al., (2011) identified the type of training needs that are covered by the areas of management, leadership, and communication skills, and reported on the feedback gained from PHC nurses regarding these training programmes. However, Al-Omar and Bin Saeed (1998) offer little in the way of detail about the training needs of PHC nurses. The workplace environment, either hospital or PHCC was an aspect considered by Bergh et al. (2012). Their study explored nurses' perceptions of conditions for patient education, focusing on organisational, environmental and professional cooperation aspects, and the differences between primary, municipal and hospital care settings. Finally, a unique study was conducted by Alnaif and Alghanim (2009) to assess health educational activities in PHC centres in

Riyadh, S.A. The broader aim of this study was to provide a basis for improving health education in S.A.

From the above explanation of the study aims, it can be seen that no study aimed to identify the competencies for PHC nurses regarding health education. Rather, previous studies aimed to increase the knowledge or the skills regarding health education regardless of the combination between them that resulted in “competency”. In other words, it was not an aim of any of the studies to discuss what is meant by competency, nor identify the views of nurses about the competencies; this stage was taken as a given. Nevertheless, it is important to highlight the issues and workforce debates that are related to competencies in the PHC setting in S.A. if the quality of health care is to be improved in a meaningful sense and public health issues overcome, such as diabetes, hypertension and (CVD) diseases.

## **Sample**

The study samples were drawn from PHC nurses, PNs, DNs, HVs, GPs, physicians in PHC settings, other health professionals within PHC, and patients; these were considered appropriate to achieve the study aims outlined above. Five studies included PHC nurses as a distinct sample, as opposed to combination with other groups such as GPs, or patients in order to identify the need to improve the practice of health education within the PHC setting (Almalki et al., 2011; Bergh et al., 2012; Gilmour et al., 2014; Melville et al., 2005; Yousuf et al., 2012). In contrast, six studies had similar research aims, yet the sample was patients who visited the PHCCs (Al-Amoud, 2003; Abdulhadi et al., 2007; Al-Khaldi, 2008; Alnaif & Alghanim, 2009; Al-Omar & Bin Saeed, 1998; Rasheed & Al-Sowielem, 2003). The last six studies used samples comprised of other health professionals along with PHC nurses (Aalto et al., 2001; Abdulhadi et al., 2013; Douglas et al., 2006; Gande & Milaat, 1999; Kerr et al., 2007; Torres et al., 2010). These studies tend not to be as relevant to the present study, due to the combination of the sample with other health professionals within the PHC setting. An implication of this is that it would be difficult to put into practice the competencies resulting from these studies without considering the opinions of the PHC nurses.

The number of research participants sampled within the research studies ranged from 23 to 922. Within the qualitative studies (4), the sample sizes were considerably smaller, ranging

from 23 (Torres et al., 2010) to 41 (Kerr et al., 2007). The sample size in the quantitative studies ranged from 107 (Al-Khaldi, 2008) to 922 (Al-Amoud, 2003). These sample sizes were acceptable according to the methodology; as stated by Creswell (2007), qualitative studies tend to use a smaller sample, while quantitative studies draw on large numbers of participants. Studies conducted in the Middle East (Oman & Egypt) may provide more guidance and information for the present study due to their alignment with the socio cultural context of S.A. However, along with the majority of the studies, these recruited participants from the location where the researchers were based. This is due to the use of convenience samples and the ease of access. However, this can be seen as one of the limitations of these studies, as they are in one geographical area. On the other hand, Aalto et al. (2001) examined 167 PHC nurses and 84 physicians in two Finnish cities (Tampere & Turku), and the findings did not indicate significant differences between the cities.

On the other hand, Almalki et al. (2011) in their investigation to assess the quality of working life among PHC nurses in Jazan, south-west Saudi Arabia, took a convenience sample from 134 PHC nurses in one particular area of Saudi Arabia. A convenience sample can be used to gather useful data that would not have been possible by using random sampling or other types of sampling using criteria (Robson, 2011). However, the data may not be generalizable, as the sample represent particular groups within the community.

Random sampling was chosen by seven studies to recruit participants (Aalto et al., 2001; Alnaif & Alghanim, 2009; Douglas et al., 2006; Gandeh & Milaat, 1999; Gilmour et al., 2014; Melville et al., 2005; Yousuf et al., 2012). For example, Alnaif and Alghanim (2009) randomly selected 750 adult patients who attended PHCCs in Riyadh from February to April 2006. Following this procedure, 569 respondents successfully completed the questionnaire. Yousuf et al. (2012) randomly distributed the questionnaire to 420 PHC nurses in Jeddah, and 250 were returned. The sample was appropriate in these studies, and the response rate was acceptable, as it satisfied the criteria for the statistical analysis and allowed the researchers to generalise their findings. In these studies that combined included other health professionals working in the PHCCs, the sample was suitable to the research aims. For example, Gandeh and Milaat (1999) conducted a study in order to examine the status of knowledge, attitudes and practices of doctors and nurses in PHC facilities with regard to



hypertension in pregnancy, Al-Khobar, S.A. The sample was both groups of doctors and nurses working in all PHCCs, however, the response rate was 81.4% among doctors and 75.8% among nurses, which was considered acceptable responses rate.

Random stratified sampling was chosen by two studies to recruit participants from different groups (strata). Al-Omar and Bin Saeed (1998) stratified their sample from five MOH-PHCCs, and another five private PHCCs in Riyadh. The sample of the study was taken from just one geographical area, which means the results are not applicable to the wider Saudi Arabian context. However, the study can be seen as a starting point for future research in terms of broadening the scope of approaches to data collection. Bergh et al. (2012) stratified nurses by work setting between primary, municipal and hospital care, to ensure that different settings were appropriately represented. This seemed to be an effective technique to maximise representativeness, where participants were from different groups, age, gender, or places. However, this type of sample may not be as knowledgeable, or have the characteristics of a purposive sample, or sample with inclusion criteria (Creswell, 2013).

Moreover, three studies used heterogeneous purposive sampling in order to enrol participants. In this type of sampling participants are chosen due to their special characteristics that are related to the study. For instance, Abdulhadi et al. (2007) purposively selected diabetic patients on the basis of differences in their educational backgrounds, ages, and gender. This type of sampling was appropriate to achieve the aim of the study and to express the patients' feelings from a range of different groups. In a later study, Abdulhadi et al. (2013) purposively interviewed the same health professionals who had participated in a previous study (Abdulhadi et al., 2006). This supports the idea of repeating rounds during the research study with the same participants in order to report any changes or alterations in their views. Moreover, Kerr et al. (2007), explored the knowledge, attitudes and practices of members of the primary care team in relation to smoking and quitting smoking in later life. The sample was recruited purposively from the west of Scotland, and consisted of PNs, HVs, GPs and DNs who worked with people over the age of 65.

Four studies used homogenous purposive sampling (where participants have the same specific inclusion criteria) in order to achieve the aim of the studies (Al-Amoud, 2003; Al-Khaldi, 2008; Rasheed & Al-Sowielem, 2003; Torres et al., 2010). The samples in these studies should have the same characteristics, as set by the authors prior to the data collection period. For example, Rasheed and Al-Sowielem (2003) selected women who were of child-bearing age (15-45 years) who had been pregnant at least once. Al-Khaldi (2008) selected diabetic males who attended the Al-Manhal Centre of Family Practice, in the first quarter of 2004. Inclusion criteria can facilitate data collection by presenting special groups to represent the population (Robson, 2011). This approach is employed within the present study, as there were inclusion criteria for PHC nurses in order to identify health education competencies. The inclusion criteria include: a) have a bachelor's degree in nursing and at least one year of nursing experience, or a diploma in nursing with at least four years of nursing experience, b) ability to speak Arabic and/or English.

## **Method**

Both quantitative and qualitative studies have to obtain ethical approval from a recognised ethical committee, such as a University or hospital, as stated by Cohen, Manion & Morrison (2013). All the studies addressed the issues related to ethics clearly either through participant consent forms supported by ethical approval from an organisation. The specific data collection tools varied considerably, however. Thirteen (13) studies used quantitative approaches during data collection procedures (Aalto et al., 2001; Al-Amoud, 2003; Al-Khaldi, 2008; Almalki et al. 2011; Alnaif & Alghanim, 2009; Al-Omar & Bin Saeed, 1998; Bergh et al., 2012; Douglas et al., 2006; Gandehe & Milaat, 1999; Gilmour et al., 2014; Melville et al., 2005; Rasheed & Al-Sowielem, 2003; Yousuf et al., 2012). All these studies conducted data collection via survey questionnaires; however, the aims and the participants varied. Although, some studies were conducted in Western countries, their tools can be adapted for use within the Saudi context.

The aims of the quantitative tools mirrored the aims of the respective study. Topics studies using questionnaires included:

- Knowledge, skills, and attitudes of PHC nurses toward specific health problems (Aalto et al., 2001; Almalki et al., 2011; Bergh et al., 2012; Douglas et al., 2006 ;

Gandeh & Milaat, 1999 ; Gilmour et al., 2014 ; Melville et al., 2005 ; Yousuf et al., 2012).

- Factors and barriers influencing patients' awareness of health problems (Almalki et al., 2011; Al-Omar & Bin Saeed, 1998; Douglas et al., 2006).
- Health education activities, and patients' attitudes toward health education within PHCCs (Al-Amoud, 2003; Al-Khaldi, 2008; Alnaif & Alghanim, 2009; Al-Omar & Bin Saeed, 1998; Rasheed & Al-Sowielem, 2003).

Almalki et al. (2011) used the Brooks' Survey of Quality of Nursing Work Life, in order to assess the quality of work life among PHC nurses in Jazan, S.A. The questionnaire contained 42 items divided into four dimensions; work life, work design, work context, and work world. This tool is partially applicable to the current research, with the items that supported continuing education and training for the PHC nurses and maintaining good communication with other health professionals being particularly relevant.

As with the quantitative studies more generally, Almalki et al.'s (2011) findings are based on a one round questionnaire. However, as they did not conduct the survey in order to achieve consensus among the participants, one round was sufficient to achieve their aims.

Four studies used qualitative approaches. Two of them used focus groups to collect data (Abdulahdi et al. 2007; Torres et al., 2010), while the remaining two used semi-structured interviews (Abdulahdi et al., 2013; Kerr et al. 2007). The selection of the methodology and research tools is dependent upon the objective of the studies. For example, Abdulhadi et al. (2007) aimed to explore the perceptions of diabetic patients towards medical intervention and quality of interactions with PHC providers. This was suited to focus group discussion, as was Torres et al.'s, (2010) study of health education practices for diabetes patients. Therefore, the participants can provide immediate ideas to improve the health services, via focus groups through interaction and discussion.

Semi-structured interview was the tool in order to explore the experience of PHC nurses dealing with diabetic patients (Abdulahdi et al., 2013), as well as PHC nurses' knowledge,

and attitude regarding smoking and smoking cessation in later life (Kerr et al., 2007). The duration of the interview was not mentioned in these studies, and as qualitative studies, only a small number of participants were involved. Further issues with qualitative methods are that the presence of the researcher may negatively influence the response of the participants, and that confidentiality is a challenging issue during data collection. Also, there is the potential for both the interviewer and the interviewee to be less attentive and focused, which hinders the collection of valid information (Creswell, 2007).

## **Results**

The main results of the (17) studies identified that PHC nurses had insufficient knowledge, skills, and attitudes toward health problems, such as diabetes, hypertension, and breast cancer. It is clear that health education provided by PHC nurses plays a major role in preventing these health problems, and the nursing role needs improvement and development. However, these studies did not identify the exact problem with knowledge or skills, they just pointed out in general way. For example, a number of the studies focused more on wider factors that acted as barriers in the health education process, including, lack of time, workload, weakness in communication, rather than the competencies themselves (Abdulhadi et al., 2007, 2013; Douglas et al., 2006). Patients' lack of awareness regarding their medical condition was an outcome of the studies (Al-Amoud, 2003; Al-Khalidi, 2008; Alnaif & Alghanim, 2009; Rasheed & Al-Sowielem, 2003). From the results of the studies, it is clear that there is a pressing need for improvement in the knowledge, skills, and attitudes of PHC nurses, regarding health education. For example, a high percentage of diabetic patients who visited the PHCC in Abha, S.A. were not aware about the complications of diabetes for feet and ways to apply foot care (Al-Khalidi, 2008). This suggests that the PHC nurses and other staff there had not successfully communicated the issues through health education.

Some of the authors compared their results with those from different countries (Yousuf et al., 2012; Al-Khalidi, 2008), such as Libya and Jordan, which led to an emphasis on improving the knowledge of PHC teams concerning the education of patients about diabetic foot care and breast cancer and other health issues. These studies emphasised the importance of the health-education provision process in a PHC setting as a method to increase patients' awareness and in turn lead to improved health outcomes.

The 17 studies indicated that health education, as provided by PHC nurses may be affected by variables such as organizational and managerial support and cooperation from others. Moreover, duration, topics covered during health education, and barriers are important issues of health education. The majority of the studies have recommended and discussed the need to promote the training of PHC professionals, including nurses, in order to increase their skills and knowledge about health education. The Saudi studies can be seen as a useful pointer towards general trends in this area with respect to the specific topic of this research, as they considered the cultural issues in health education and the influence of patients' decisions. However, these Saudi studies lack details of what PHC nurses need to be competent in providing health education. Further, they did not identify the environment role of the PHC setting and its influence on health care provision.

### **What the literature tells us in part one**

This review of the literature above has revealed significant deficiencies in evidence related to the knowledge, skills and attitudes (competencies) of PHC nurses concerning health education and the training required for nurses in S.A. Furthermore, there is only limited evidence from other Middle Eastern countries. The majority of the 17 studies concern a specific disease or health problem, whereas, the present study is concerned with the competencies for health education in general. A number of studies examine PHC nurses' and other health professionals' roles regarding health education, which is a much broader focus than the present study which concerns PHC nurses only. Also, most of the literature recommends conducting continuing education/ workshops to improve PHC nurses' role concerning health education. All of these issues support the need to conduct this study, which will fill the gap in the literature regarding health education competencies for PHC nurses in the specific context of S.A., following with an interactive workshop in order to know the practicalities of these competencies.

The following section will discuss three shared themes identified in the included studies, which are: firstly, a lack of knowledge and skills on the part of PHC nurses, which can be addressed through training courses and continuing education; secondly, identifying barriers that hinder the health-education process, relating to both patients and nurses; thirdly, organisation and workplace environment conditions.

## **1. Lack of knowledge and skills of PHC nurses**

Lack of knowledge and skills of PHC nurses is considered to be an important aspect in health education within the PHC setting. Torres et al. (2010) emphasise reorienting health-education practice and providing better training for health teams in PHCCs, as this would improve health promotion and disease prevention. They conducted a workshop on diabetes with health professionals in PHCCs, as they concluded that only limited information was available to PHC professionals about this disease. More strategically, however, they suggest that there is a need to put structures in place for diabetes health education. Similar issues were identified by Yousuf et al. (2012) in relation to the breast-cancer knowledge and practice of PHC nurses. They highlighted the need for PHC nurses to be aware of breast-cancer risks and signs, and mammography, as it is possible to prevent this disease via routine examinations which can stem from health education. Knowledge gaps in the PHC setting were identified by Melville et al. (2005), regarding the health needs of people with intellectual disabilities. However, nurses were found to have a positive attitude toward working with people with intellectual disabilities. This indicates that there should be specific training for PHC nurses. A further area where PHC nurses' lack of knowledge was identified by Rasheed and Al-Sowielem (2003), who reported that PHC nurses were considered to be a poor source of health information on pregnancy topics.

In terms of addressing the lack of knowledge and skills, Gilmour et al. (2014) found that providing training for PHC nurses regarding adaptation to chronic illnesses and prevention complications can have a strong impact on health education, which will in turn improve self-management skills and therefore lead to an improvement in health outcomes. The need for continuing-education courses to improve PHC nurses' poor knowledge regarding brief intervention for heavy drinkers was also highlighted by Aalto et al. (2001). Moreover, the respondents in their study, suggested actions to implement brief interventions which include more practical training, more information about brief intervention studies, more lectures and personal training. Additionally, Gandeh and Milaat (1999) suggested offering regular refresher courses on common and serious problems such as hypertension to doctors and nurses in PHCCs, in Al-Khobar (S.A.). They also recommended a review of the curriculum of the female nursing institutions to update both their theoretical and practical contents.

It is clear from the literature that health education plays a major role in improving conditions for patients. This can be achieved by boosting the knowledge, skills, and attitudes of PHC nurses. However, the starting point for the studies is often a perceived lack of knowledge in

relation to a particular health problem. There is clearly a need to take a systematic approach to identifying the required competencies, and thus fill the gap in the literature explained above.

## **2. Barriers that hinder the health-education process**

Health education plays a major role in improving the health of people in the community (Al-Khalidi, 2008; Kerr et al., 2007). It is therefore valuable to identify the barriers that impede the provision of health education to patients. The barriers could be from patients, or PHC nurses, or both. Many studies have attempted to remove these barriers and find solutions that improve the provision of health education to patients. A unique study by Abdulhadi et al. (2013) explores three barriers to effective health education. The first relates to organisation, such as workload and lack of teamwork. The second relates to patients, such as poor patient adherence, and patients' beliefs concerning illness. The third relates to PHC teams, including nurses, such as communication problems related to language, aggressive attitudes towards patients and a lack of time. Communication issues are a key barrier to delivering health education to patients in PHCCs, and this has been identified in other studies (Abdulhadi et al., 2007; Douglas et al., 2006).

Abdulhadi et al. (2007) noticed some weaknesses regarding patient-provider communication, such as an unfriendly welcome, interruptions of consultation privacy, poor attention and eye contact, lack of encouragement and motivation for patients to ask questions. In their 2006 investigation, Douglas et al. report certain barriers to giving routine physical activity advice to patients, which are lack of time, lack of extra payment, insufficient educational materials, lack of specific training for health professionals, and some patients being unlikely to be motivated to follow their advice. All these barriers, such as, communication issues, active listening to patients, and dealing with the patients in an unbiased manner, are considered within this current research. As it is essential for PHC nurses to keep in mind the patients need without discrimination when providing health education to the patients. This is a critical issue as S.A. is a multi-cultural nation.

## **3. Organisation and workplace environment conditions**

Managerial support is recognised as a key factor in health education, due to the need for a suitable workplace and environment in health settings. Bergh et al. (2012) compare three workplace settings and focus on the impact of the workplace environment on the health education provided. Their study shows that the most usual setting for primary care nurses to

conduct patient-education activities is in a private room (78%); municipal care nurses also tend to work in a private room (56%) or in the patient's home (43%), while 78 per cent of hospital nurses use the patient's room in the presence of other patients. Moreover, the results identify that PHC nurses have better setting and managerial support, than municipal care nurses and hospital nurses, allowing them to more effectively fulfil their health education role. Thus, it is important to consider managerial support in term of support, including the organisation of clear plans for where health education can be provided to patients. Organisation and workplace environment conditions, including managerial support, are considered within the present study; as Bergh et al. (2012) make clear, it is not only the health education itself that is important, but also the organisational context in which this takes place.

## Search for part two

The aim of this part is to identify current evidence relating to the training of PHC nurses in order to improve their health-education performance within the Saudi and wider nursing contexts. The inclusion/exclusion criteria are explained below, in Table 3.4. Regarding the language of the studies, only those in English were included, for the reasons discussed above. For this part of the search, however, only studies from 2008-2016 were included, this is to coincide with the Saudi MOH PHC strategy (2009), which was on the agenda of policy-makers at this time. Furthermore, the focus was on articles which present training/continuing education as a method to improve the practice of health education for PHC nurses. This is due to the suggestions and recommendations of the studies in part one that support introduction of training courses for PHC nurses.

**Table 3.4 Inclusion and exclusion criteria for the articles for part two**

Inclusion criteria	Exclusion criteria
<p>*Studies in English.</p> <p>*Published between 2008 and 2016.</p> <p>*Articles focusing on the training of PHC nurses regarding health education on different topics or subjects.</p>	<p>*Exclude policies, essays, review papers &amp; assignment papers.</p> <p>*Articles that describe hospital nurses' practices of patient health education. (as explained in the second chapter).</p>



Turning to the exclusion criteria, once again policies, essays, review papers and assignment papers were excluded, for the same reasons as in part one. Studies which describe hospital nurse's practice for health education were excluded due to the difference between nurses who work in hospitals and in PHC settings.

### **Search strategy for part two**

A systematic strategy was used to search the “Medline”, “CINAHL”, “SPORT Discus”, “ERIC” and “PubMed” central library databases for work published between 2008 and 2016. For this part of the search, PsycINFO”, and ProQuest were not utilised, due to the lack of relevant studies yielded from these databases in part one. The keywords used and search strategy are presented in Table 3.5. A total of 120 articles were found, five of which are retained as they satisfy the inclusion criteria. The review process to select articles was undertaken by the researcher after reading the abstract of each one. The remaining papers did not satisfy the inclusion criteria, e.g. continuing education and training courses were not mentioned as a means to improve the practice of health education within the PHC setting.

**Table 3.5. Search Strategy for part two**

Source Searched	Keywords	No. of studies identified	No. of studies selected
Medline, CINAHL, & SPORT Discus	Training Workshop	54	2
ERIC	Continue education	20	1
PubMed	PHC nurses Health education	46	2

### **Description of the retrieved articles**

A total of 5 papers were retrieved. These provided examples of training/workshops for PHC nurses, aimed to improve the health education process within a PHC setting. One study focused on S.A., while the others reported findings from other national contexts (Egypt, Canada, Brazil, & Netherlands). The studies all stressed the importance of health education

in the PHC setting. The Canadian study examined the need for continuing education programme generally for PHC nurses, and how it was a helpful method to improve their performance within the PHC setting including health education (Baxter et al, 2013). A further two studies reported that education programmes for PHC professionals, including nurses, towards diabetes are an effective method to improve the quality of health care, as well as the health of diabetic patients (Asiri, 2015; Torres et al., 2010). Perry et al. (2008) identified that a Dementia Training Programme (DTP) was highly effective in modifying and improving the behaviours of GPs and PHC nurses regarding dementia, with adherence to national guidelines for dementia, attitudes, confidence and knowledge about dementia diagnosis and management, in the Netherlands. Mersal and Keshk (2012) examined the effectiveness of intervention programme in Egypt for a combination of PHC nurses and patients.

A number of barriers and limitations that can hinder education programmes delivered by PHC nurses and other health professionals were identified, however. These included lack of time, lack of investment, workload, an unsuitable environment (Asiri, 2015; Baxter et al, 2013; Mersal & Keshk, 2012). It is essential policy makers consider these barriers in order to provide a valuable education/training programme for PHC staff. A summary of the included articles is given below in (table 3.6). This table excluded the strengths and limitations of the papers due to the positive influences that have been found as a result of the training courses.

**Table 3.6. Summary of included articles for part two**

Author(s), place and date	Study title	Method	Sample	Results
Asiri S. Saudi Arabia, 2015	Client education plan for improving diabetes management during primary healthcare in Saudi Arabia	Educational programme for PHC managers and nurses to provide effective health education to patients with diabetes.	PHC nurses PHC managers Other health professionals within the PHCCs.	By developing this programme it will encourage collaboration among staff to provide high quality care and education for people with diabetes, and  improve the quality of life for patients with diabetes and

				reduce complications.
Baxter P, DiCenso A, Donald F, Martin-Misener R, Opsteen, J, Chambers T  Canada, 2013	Continuing education for primary healthcare nurse practitioners in Ontario, Canada	Survey	83 PHC nurses out of 209,  response rate of 40%	Participants reported that continuing education was extremely important to them. They also identified barriers to engaging in continuing education programmes
Mersal F, Keshk L  Egypt, 2012	Improving the health-education skills of nurses working in MCH centres in Egypt to enhance women's awareness of family planning	Pre- and post-administration of self-administered questionnaires and observation checklists for health-education performance skills for nurses. Intervention programme between the two tests.	29 nurses from 6 MCH centres  All women of reproductive age (15–49) had at least one child	The post-test period showed an improvement in nurses' knowledge and performance regarding health education. Also, it found an improvement in women's knowledge about family planning post-intervention
Perry M, Drašković, I, van Achterberg T, Borm GF, van Eijken MIJ, Lucassen PL, Vernooij-Dassen MJFJ, Olde Rikkert MGM  Netherlands, 2008	Can an EASY care-based dementia training programme improve  The diagnostic assessment and management of dementia by  practitioners and primary care nurses? The design of a randomised controlled trial	Dementia training programme (DTP)	100 pairs of GPs and nurses working in PHC	Improving the behaviour and knowledge of GPs and PHC nurses regarding dementia, through (DTP).
Torres H, Amaral M, Amorim M,	Training of professionals, working in primary healthcare, in	Workshop	PHC team of 85 nurses	The workshop contributed to the planning of the educational process and the

Cyrino A, Bodstein R  Brazil, 2010	diabetes mellitus education			structuring of an evaluation model  of practices of health and education promotion concerning diabetes
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### **Appraisal of the articles included**

The literature will be analysed and critiqued to support the importance of education programmes for PHC nurses, enabling development of their health education practice. As with part one, the critique is guided by Long et al. (2002) and covers four key areas, which are presented in the next section: study aims, sample, method and results.

### **Study aims**

The aims of the five papers were to examine the effectiveness of education/training programmes for PHC nurses, in order to boost their knowledge, skills, and performance towards activities including health education. There was variation within these aims, however. For example, Asiri (2015) aimed to improve provision of effective health teaching for patients with diabetes through planning an educational programme for PHC managers and nurses and other health workers in PHCCs. This was due to the high percentage of diabetes in S.A. and evidence that developing educational programmes for patients with diabetes would help improve the quality of life for these patients.

Three of the articles (Mersal & Keshk, 2012; Perry et al., 2008; Torres et al., 2010) used educational/workshop programmes to improve the knowledge of PHC nurses toward health problems, and thereby enhance their practice of health education. These articles demonstrated the importance of continuing education programmes in order to improve the quality of health within different setting and different health problems as well. For example, Torres et al., (2010) conducted a workshop aimed to improve the knowledge of PHC professionals about diabetes and skills required for self-care associated with healthy lifestyle habits. A post-workshop assessment suggested that a previous lack of knowledge about diabetes

(pathophysiology and complementary tests) displayed by the participants had been identified and addressed in the course of the workshop.

In their study of continuing education for PHC nurses in Canada, Baxter et al., (2013) revealed that a majority of PHC nurses reported that continuing education was extremely important and allowed them to be more efficient in their work, including health education. Additionally, the participants explained several barriers that hinder them in continuing education, for example: time pressure, lack of senior management support, lack of investment, and fatigue. This study considered general health education skills rather specific health problems, as discussed in previous papers.

### **Sample**

The sample for the five studies were PHC nurses either alone or combined with other health professionals within the PHC setting (GPs, social worker, technicians, & psychologists). One study (Baxter et al., 2013) examined solely PHC nurses to find out the need for continuing education and identify the barriers which hindered this education. Mersal and Keshk (2012) used purposive sampling to gain the participation of 29 nurses and 192 married women in their study on health education skills for nurses working in Maternal and Child Health (MCH) centres via programmes for nursing intervention toward family planning. The combination of the patients and PHC nurses as a sample was effective in terms of understanding the perspectives of not just nurses, but patients too. This sampling strategy informed the present study, which also sought the views of service users in the workshop stage.

The remaining three studies (Asiri, 2015; Perry et al., 2008; Torres et al., 2010) combined their education programme with other health professionals along with nurses within the PHC setting. This supported the need to provide health education for patients, as this is the first point of contact with people in the community. For example, Torres et al., (2010) developed an educational workshop to improve the knowledge of PHC professionals about what is diabetes and the skills required for self-care associated with a healthy lifestyle and habits. Moreover, Asiri (2015) combined PHC nurses, physicians, and PHCCs managers/administrators in the planning for education programmes for diabetes patients. It is clear that health education is a task for all workers within the PHC setting.

From the above explanation of the sampling strategies employed, the positive influence of the involvement of the patients (service users) during the planning of a workshop/training courses is apparent. More specifically, interaction and discussion between groups can enhance the processes of the training or workshop, and help to achieve its aims.

## **Method**

In this part of the search, methods included continuing education, training programmes, and workshops to help PHC nurses improve their practice related health education and other nursing activities. While, one study conducted in Canada used a survey to identify the importance of continuing education for PN (Baxter et al., 2013). However, a survey was an appropriate tool for this study as the nurses identified the barriers of continuing education.

The remaining four articles (Asiri, 2015; Mersal & Keshk, 2012; Perry et al., 2008; Torres et al., 2010) conducted an educational programme for PHC nurses, such as, Torres et al., (2010) presented a workshop for PHC professionals regarding diabetes management. This method was effective as it enabled the authors to make changes towards the improvement of the performance of the PHC nurses. It is clear that these education programmes were regarding a specific health problem, although, they can be adapted to boost the PHC nurse practice for health education by identifying the competencies. Further, Mersal and Keshk (2012) used an observation checklist and interview questionnaire facilitated the study's progress in the pre- and post-test.

Although the education and training programmes achieved their aims (Asiri, 2015; Mersal & Keshk, 2012; Perry et al., 2008), the workshop appeared to be particularly effective in increasing the knowledge of PHC nurses regarding diabetes due to the group dynamics that took place in this interactive environment (Torres et al., 2010). More specifically, participants could engage in mutual learning through the exchange of ideas. Therefore, a workshop can be considered as an effective method to enhance the performance of health education for PHC nurses through discussion and interaction. This supports the objective of this present study to find practical ways of applying the competencies, which can be achieved by an interactive workshop.

## **Results**

The main outcome for the five studies was that continuing education programmes improve the quality of health care and the health for the patients. Further, these studies highlighted the barriers of continuing education such as, lack of time, lack of payment, work stress, and insufficient educational materials. According to Baxter et al. (2013), the most common barrier that PHC nurses face to enrolling in an education programme, is the difficulty of balance between the work and the study demands. Beside other hinders: family obligation, lack of time, finances, and fatigue. Mersal and Keshk (2012) in their study, reveal the outcomes of a literature review, which enhances and strengthens the study and is a positive point. According to Asiri (2015) who plan an educational programme to increase PHC nurses' knowledge regarding diabetes education. This plan has to be considered in this current study as diabetes is a chronic disease in the Saudi context as well as the potentially positive outcomes of applying this programme. Therefore, it can improve the condition of patients with diabetes and the quality of healthcare.

The previous articles for (part two) assured that continuing education programmes, will improve the practice of PHC nurses, including health education. Further, they identified the variables which hinder these programmes. This has to be considered by policymakers and stakeholders. Therefore, a training/education course can be the effective method to teach the health education competencies.

## **What the literature tells us in part two**

The second part of the literature review illustrates that, despite the different contexts, workshops/ and education courses are important in developing PHC nurses' skills and knowledge regarding health education. Moreover, the literature identifies ways to improve the health-education performance of PHC nurses. As such, the studies suggest that there is a need for a workshop to engage PHC nurses and service users in identifying ways to pilot and evaluate the competencies. All of these articles confirm that nurses were satisfied with the conduct of workshops or continuing education programmes.

There are numerous examples of conducting workshops/ training courses to improve PHC nurses knowledge of health education in different countries to address various health problems. For example, in Brazil, Torres et al. (2010) set up an educational workshop about diabetes, as it is a chronic disease where self-management practice can decrease

complications and improve patient outcomes. Moreover, Perry et al. (2008) used a dementia training programme (DTP) to improve the assessment and diagnosis of dementia patients in PHC settings. After an educational-skills nursing programme conducted by Mersal and Keshk (2012), there was a clear enhancement of nurses' knowledge related to women's health, including family planning and antenatal care. Further, Asiri (2015) found an improvement in PHC nurses' knowledge after conducting an educational programme that was proposed in order to enhance the quality of life of patients with diabetes whilst reducing complications.

## **Contribution to the Literature**

The literature reviewed above lacks specific information relating to the knowledge, skills and attitudes of PHC nurses regarding health education. The basic tenet of this research is to fill a gap in the literature by identifying health-education competencies (knowledge, skills and attitudes) for PHC nurses in S.A. in order to promote health to people and increase the quality of care provided. This can be achieved by consulting the views of PHC nurses on what competencies they believe are required to perform their work, and getting feedback on the application of these competencies via a workshop. The current research considers the barriers to conducting health education discussed in the literature above, such as workload, lack of time and insufficient pay.

In addition, the literature discusses a variety of health topics, including chronic illnesses such as diabetes and heart failure, from different sides (patients, health teams and organisations) with the aim of increasing the knowledge of nurses. Barriers and obstacles to effective health education have been explored, along with processes to overcome these. The religion, culture and customs of S.A. affect the status of the community, which should be considered in the health-education process, e.g. on the gender issue, some female patients may prefer to receive health education from female nurses, rather than males (MOH, 2009). In this way, this issue of religion has to be considered when identifying health education competencies for PHC nurses. More generally, however, the Western literature is useful and can guide this research in the ways to identify competencies and how they can be introduced to PHC nurses.



## **Conclusion**

From this review of the literature, it is clear that there is a focus on the knowledge, skills and attitudes that PHC nurses need to deliver health education to patients with different health problems. Within the Saudi studies, there is a gap in the PHC nurses' role regarding health education, which will be addressed in this study. However, the barriers that hinder health education highlighted in this chapter also have to be considered in this study. Further, this chapter has presented methods to improve PHC nurses' roles in health education, such as continuing education, which can be introduced to pursue these competencies. In the next chapter, the concept of competencies and their relationship to nursing will be presented.

## **Chapter Four: Discussing Competency: Concepts, Assessment and Frameworks**

### **Introduction**

It is important to have an overview of the underlying meaning of competency, and its components, in order to clarify the ideas within this research to the reader. This chapter explains the concepts and definitions of competence and competency from different perspectives. A detailed explanation is offered of the three components of competency: knowledge, skills, and attitude. An overview of the underlying meaning of competencies in the nursing profession is made, before exploring the assessment of competencies. This chapter illustrates the meaning of competency frameworks and their efficiency for quality in work. The educational philosophy of the chapter will be presented by exploring three educational theories related to competencies. And how these theories support this study. Lastly, there will be an explanation of the framework for this research, as Delphi researches lack of the theoretical framework.

### **Concepts of competence and competency**

To understand the definitions of competence in scholarly work, it is necessary to comprehend that there are various interpretations of the term itself. For instance, Watson et al. (2002) describe competence as an individual concept that can be labelled nebulous. Hence, to comprehend the overall formulation of the term “competence” it is necessary to see that the definition can indeed be vague or ill-defined at times. Moreover, competence as a concept has been referred to as “popular but often misused” (Markus et al., 2005, p.125). There is a need, therefore, to explore the association between related concepts, such as performance and expertise when attempting to ascertain the most appropriate definition and functional meaning of competence or competency. Additionally, competence and competency have been defined by the Oxford English Dictionary (Stevenson, 2010) as synonymous; this is a claim that will be challenged below.

It is possible to view competence as defined by the Nursing and Midwifery Council (NMC) UK (2002, p. 10), as “possessing the skills and abilities required for lawful, safe and effective professional practice without direct supervision”. This definition considers that competence

is related to skills which aim to provide nursing care that is safe and lawful, including health education to clients. However, further consideration and detail is clearly required. It is interesting to consider the definition of Leigh et al. (2007, p.464), who state that “competence refers to the professional’s overall suitability for the profession in the guise of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in psychological practice”. This follows on from the notion of a competent employee as defined by Roach (1992), i.e. an employee who possesses and actively exercises acute judgement and knowledge, alongside practising their own skills, energy, and experience, while individually creating, developing and utilising their own inbuilt motivation that formulates the responses that are then necessary in adequately responding to the demands of all the encompassing responsibilities of professional life. However, Roach’s definition includes a statement of judgement and experience that provides for a wider view of and responsibility in competence as a concept, rather than an NMC definition. This approach is supported by other studies, such as Gonczi (1994), who refers to competence as a collection of various individual attributes that contribute to the structure of a working existence. These attributes are again known to comprise an employee’s knowledge, skills and attitude.

When searching for the meaning, of the term competence, it is necessary to analyse all the expectations that could be attached to an employee, especially in the nursing profession. According to Affara (2009, p.6), competence “refers to the effective application of a combination of knowledge, skill and judgement demonstrated by an individual in daily practice or job performance. In nursing definitions, there is wide ranging agreement that, in the performance of nursing roles to the standards required in employment, competence reflects the following: knowledge, understanding and judgement; a range of skills cognitive, technical or psychomotor and interpersonal; and a range of personal attributes and attitudes.” Affara (2009) goes on to suggest that the meaning of competence goes beyond an individual’s capability, and should encompass their understanding of their role, along with organisational expectations. So, her definition is consistent with Roach’s definition as both include judgement as an ability that is part of competence.

To fully consider the implications of what “being competent” entails and delivers, it becomes necessary to think about whether or not the term is sufficient in a professional environment. In the field of healthcare, a professional employee who is labelled as and believed to be practising in a “competent manner” uses their ability in order to complete a task successfully;

it could be the baseline of practice that may be expected of a practitioner. Moreover, the overall definition of competent can vary according to one's level of experience, and expectancy for a position of a particular level within an organisation. Hence, within the field of healthcare, being competent, as a label is never fully defined and understood if it is not further stated where the professional works, as the individual can be anywhere between an inexperienced novice and a very experienced expert (Benner, 2001). This supports the idea that competence is a dynamic concept, which moves from baseline entry to expertise in a particular field. Consequently, in healthcare practice, being competent is the ability to complete a task successfully without supervision. However, other titles such as, consultant, or, specialist, do not necessarily guarantee an accepted level of competence, rather, they are concerned with position (Benner, 2001). This means that a consultant or specialist may not necessarily be competent in their tasks within healthcare.

When the levels and measures of competence are analysed it becomes possible to direct attention to the working environment, to structure the understanding of how competencies function for an individual and within an organisation. Competencies for an individual are demonstrated, according to Leigh et al. (2007), by their performance, by being effective, reflecting the required standards that have been deemed the accepted norm. Moreover, competencies have been referred to as “the performance criteria, knowledge and understanding required for carrying out a work activity effectively” (Oliver, 2006, p.182). Hence, one can label an individual nurse's competencies by referring to their effect on their tasks and how effectively they accomplish them. In addition, it has been argued by Talbot (2004) that the solitary term of competency is not synonymous with its often similarly labelled term of competence. Talbot actually shows that a list of competency-based standards that is merely ticked off as being complete does not automatically equate to the more traditional and experiential bedside approach to skills and knowledge acquisition. Additionally, Talbot (2004) emphasises this point by comparing more traditional forms of competencies, noting that measurement scales for understanding competencies continue to change over time.

According to Penciner et al. (2011, p.333), competency is “the essential knowledge, skill, or attitude needed to succeed in a given field”. This definition is aligned with the aims of this research study, as health education competencies for PHC nurses are different from other nursing competencies, such as hospital nurses' competencies or ICU nurses' competencies. Moreover, competence is highlighted as showing the overall importance and significance of

professional attitudes and behaviours (Fullerton et al., 2011). A professional attitude, and how it can create an effect, is defined as incorporating certain values and beliefs of an individual. In addition, professional behaviour is further described as “a person’s way of relating or responding to the actions of others or to an environmental stimulus” (Fullerton et al., 2011, p.401).

For Axley (2008), being competent requires an individual to not only possess a sufficient level of ability, but also qualifications to a legal standard, or qualities that portray that one’s performance can cover any activity in a given situation. For example, within nursing practice, being competent covers different tasks, i.e. clinical, educational, technical and social skills. It is important to note, however, that competencies within nursing practice can deteriorate if they are neglected, although performance and reliability are known to increase through practice and reinforcement. Therefore, it is essential to identify health-education competencies for PHC nurses in order to improve the quality of healthcare and achieve positive patient outcomes.

As this discussion illustrates, the concepts of “competence” and “competency” can be viewed from different perspectives and viewpoints. As highlighted in a number of studies, it is important to go beyond a direct focus on practical skills (Axley, 2008; Fullerton, 2011; Talbot, 2004). Behaviour plays an important role in the health education process, which can potentially lead to barriers, as was discussed in Chapter Three. For example, diabetic health education can be affected through lack of communication and lack of eye contact (Abdulhadi et al., 2013).

The definition of competencies that will be used is that offered by Pérez and Luqui (2013), in that competency includes knowledge, skills and attitudes. Developing the required knowledge, along with the practical skills, and appropriate behaviour is essential in the professional preparation of health educators. The benefit of this definition is that it contains practical aspects, behaviour and performance, whereas some of the previous definitions focused directly on practical skills, as discussed in the literature review chapter. The following sections will discuss exactly what is meant by *knowledge, skills and attitude*.

## **Knowledge**

Knowledge, within its professional remit, may refer to either the practical or theoretical comprehension of a chosen subject (Washington State Human Resources, 2012). The details of acquired knowledge are obtained via the processes of an individual's experience as well as learning, and working alongside others in their association where they work. Knowledge is delivered through and associated with the skills and attitudes of the employee (Employment Studies Institute, 2014). Hence, knowledge within the workplace can be further refined within its micro- and macro-meaning as the overall awareness of an individual of materials/ resources through the accumulation of structured experience, as well as what is learnt from books or different but relevant sources. This is why knowledge, skills and attitude are in a deeply intertwined relationship when implemented in professional life, as skills must be administered together and through structured knowledge that has already been acquired.

## **Skills**

The University of Nebraska (2014) identified that skills link with attitude to apply knowledge to further development. Thus, skill is clearly defined as how a certain individual or group task is carried out based on one's own ability. Moreover, it needs to be stated that, within an organisation, the skill gaps that are present are closed by competencies. When a skill or a group of skills are utilised and implemented correctly then a performance is, overall, likely to be successful. This is because an activated and used skill is formulated through the process of developing a given ability via mental operations or physical processes by an individual. Nevertheless, to obtain this level of efficiency can frequently require individual training that is specialised to deliver competencies.

## **Attitude**

Attitude is a separate concept from skill and knowledge that requires its own unique definition. Attitude is referred to and defined by the OED (2014, p.45) as "A settled way of thinking or feeling about someone or something, typically one that is reflected in a person's behaviour". Likewise, the term "attitude" as expressed by a person can be used as a synonym of the term "beliefs", although these are not necessarily interchangeable. It has been stated that an attitude is "a relatively enduring organization of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events or symbols" (Vaughan & Hogg, 2010, p.150). In order to understand the relationship between attitudes

and beliefs, it is valuable to discuss the meaning of belief and other terms such as behaviour which underpin the meanings of attitude.

### **Beliefs and values**

When one analyses the full notion of what is encompassed in the definition of someone's attitude, then it is demonstrated that beliefs, as well as values and norms, can actually direct and harness the enacted motives and directions of an individual or relevant group (Beliefs & Performance, 2010). A person's attitude can be deceptively powerful, as it has been proven that, across the globe in various spheres of existence, people have been known to endanger themselves and others, or indeed die, in the name and expression of their implicitly held beliefs and values. Hence, these articulated sets of values and beliefs of a stated individual are self-developed internal guidance that propels a person forward in their attitude to life and reason. On the other hand, norms, which can be both formal and informal, are forms of guidance that remain external to an individual. Furthermore, the sets of beliefs and values that a person possesses are strongly impacted on by levels of acquired knowledge (Beliefs & Performance, 2010).

Hence, these beliefs and values can be both beneficial and detrimental, depending on how they are practised and developed within an individual. Nonetheless, the power stemming from the use of knowledge can also derive from acquired information and logic, and not purely from learnt beliefs and values. However, it has been stated by Davenport and Prusak (2000) that information and logic generally fall short as providers of knowledge in an individual, as the power of knowledge to understand and support judgement, learning, organisation and selection derives more often than not from the core values and beliefs of an individual. Therefore, an association between knowledge, skills and attitudes, will formulate and structure the behavioural personality and commitment of an individual (Davenport & Prusak, 2000).

### **Behaviour**

The definitions of behaviour are varied, but Bicard and Bicard (2012) define it as the enactment within and from a certain individual that can be actively and acutely monitored or analysed through observation, measurement and repetition. What is more, the term "behaviour" and the understanding of it that a person shows are specifically described by working through enactment and motion, rather than focusing purely on any personal or physical traits of a person's motivation, internal processes or feelings. Furthermore, to gain

full insight into the understanding of behaviour, the OED (2014) refers to human behaviour as being displayed in the manner in which one acts or conducts oneself in general terms, and towards others as well. Hence, how a person acts in response to a certain situation or stimulus can be seen as offering a detailed and structured understanding of the term “behaviour”.

When considered in this way, there is clearly a link and a relationship between competencies and their components, which can have a positive influence on the performance and quality of care provided by healthcare professionals including health education. Consequently, enhancing competencies can lead to improved health outcomes for clients in the PHC setting (Irvine, 2005).

## **Nursing and competency**

In the field of healthcare, nurses are known to be an invaluable resource, which any healthcare organisation would see as an asset that it is vital to develop (Longest & Darr, 2014). Nurses perform an essential role as members of multidisciplinary healthcare teams. Moreover, nurses undertake tasks which help their organisation to achieve set objectives and aims, and these can be achieved through a joint vision that is thoroughly analysed and passed down through all levels. Throughout the various remits of healthcare it has become imperative that nursing care is delivered at the optimum level, as this will then foster and promote health and well-being, prevent illness, restore health, give care to the disabled and help to terminal patients, alongside providing a service to their families (Catalano, 2015). Additionally, the practice of nursing comprises a wide range of nursing services that must be delivered without question. For instance, educational and competency requirements, and established nursing standards, policies and procedures, are all services which a nurse must comply with (Patrions-Jones, 2007).

When competent patient care is analysed and comprehended within a healthcare system, it is demonstrated that nurses have various degrees of autonomy, as well as having to deal with a wide range of responsibilities. All of these responsibilities fall within the constraints and regulations of legal and ethical boundaries that are developed in nursing practice through a nurse’s training and education, whilst also adhering to the needs of the health organization. It is generally expected that, in the field of nursing, as a professional, a nurse will be able to deliver and administer their patients’ healthcare in a highly competent manner. Moreover, this competence is implemented through various nursing roles, which include healthcare



provider, teacher, research consumer, policymaker, client advocate, counsellor, team player, case manager, organizer, administrator, community leader, specialist and consultant (Kozier, 2008; Whelan, 2006). Furthermore, the performance of a nurse's role should provide the overall stated and desired quality of nursing care, as well as being sure to ensure the safety of others through nursing practice, which can be achieved by assessments of nursing competence (Tzeng, 2004).

In addition, a competent nurse has been identified by Kozier (2008) as an individual who can assess, monitor and provide care in a manner that is highly compassionate for both the patient and their immediate family members. The fact that this process involves the joint comprehension of both patients and their families in care decisions emphasises the level of knowledge and understanding that a nurse must have, which is in accordance with learnt cultural and ethical considerations. A nurse who is deemed to be competent has the ability to undertake various different tasks, including the use of information technology, while applying critical thinking. Further, a nurse needs to develop a broad nursing style and intrinsically possess a biological, social and behavioural science knowledge base, whilst never halting in their own progress, as they must always commit to enhanced lifelong learning.

It is widely accepted that, with support from general competencies, acceptable nursing standards apply to common nursing activities in clinical practice settings that are always applicable to all nurses who work in a clinical setting. Moreover, the specific competencies for the field of nursing are unique to this profession and should not be transferred from other areas. Hence, the comprehension of nursing competencies is based on the combined function and application of service and practice, as well as working according to a job description and handling high-risk procedures. Moreover, the entire process is formulated as defined levels so that there is a gradual transition along a continuum from advanced beginner level up to expert level (Axley, 2008; Burns & Poster, 2008).

The competence of a registered nurse has been defined by Black et al. (2008) as one's ability to understand and utilise appropriate levels of knowledge, skills, attitudes and judgement that will then permit the nurse to administer nursing care that is both competent and ethical, while always adhering to safe nursing practice that may be applied in a range of healthcare settings.

There are core competencies which are identified as being a prerequisite for registered nurses, and these are generic as they relate to a professional nurse's roles in the healthcare context, as well as being prominent in global trends (Black et al., 2008). The development of these core competencies may possibly help in preparing newly registered nurses to manage the challenges they face in the present and be able to adapt to meet future challenges within the healthcare system.

The gap between education and practice must be identified and resolved in order to prepare novice nurses to work safely and independently in the workplace. Burns and Poster (2008) posit that a novice nurse must acquire certain skills to become competent over time based on Benner's (2001) theory of skills acquisition and development through five levels: novice, advanced beginner, competent, proficient and expert. They go on to suggest that putting a competency assessment programme in place will help to validate the transition of a novice nurse from advanced beginner level to competent level and thus be able to perform safely and independently, demonstrate critical thinking, make sound decisions, take appropriate actions in managing patients' issues and respond to emergency situations. Burns and Poster hold that performance-based development systems should be widely used as these are able to generate valid and reliable data to measure the competency level of novice nurses using different methods, including scenarios, tests and simulations. As a result, they recommended a collaborative approach to implementing a competency model that measures the knowledge and skills of nurses to ensure that graduate nurses are able to deliver high quality nursing care and practice safely.

The view of competency as an ongoing process is shared by Jordan et al. (2008), who discuss the role of certification, along with nursing boards and councils. They emphasize that nursing competency is part of continuing education and certification programmes and is a requirement for licensure testing. The code of ethics in nursing practice of the ICN (2000) dictates that nurses must be competent to provide the community with safe efficient care. Jordan et al. (2008) indicate that nursing currently focuses on the validation of competency to enter the profession and on advanced practice and certification as a response to public-health policy and legislation. In addition, the authors explore that several national and international nursing boards and councils mandate that healthcare providers, including nurses, must practise competently from the public's perspective. For example, according to the authors, the Texas Nurses Association has set certain criteria to ensure nurses are competent,

including: critical thinking, interpersonal relations, basic nursing principles and ethical standards.

A further perspective is offered by Memarian et al. (2007), who emphasise that effective control, supervision and management systems are crucial to apply clinical competency in nursing and to ensure the provision of ethical nursing care that allows ethical decision-making that respects, supports and focuses on patients' needs. The authors conducted a study to identify, describe and explain the interactions between individuals and groups using clinical competency as an ongoing process. The results reveal that ethical and moral conduct leads nurses to be responsible and accountable and encourages them to use acquired knowledge and skills appropriately and effectively. Memarian et al. (2007) recommend that nurse educators and managers include professional commitment and ethical conduct in practical needs-based ward training to enable nurses to achieve clinical competency, and to acquire new skills and knowledge, along with ethics, to achieve the optimal goals of their profession and organization. In addition, the authors point out that nurses need not only to be knowledgeable and skilful, but should also be able to act decisively in critical situations and have broad knowledge of health issues and concerns within society as a whole.

It has been suggested that the best nursing competencies are those that are developed by nurses themselves to provide a structure for their own profession and to devise standards for nursing practice (Davis et al., 2008). The development of a core competency framework needs the collaboration of expert nurses and to encompass practice and service development, along with lifelong learning, and leadership and management functions. A core competency framework can guide and help nurses to measure their current knowledge and skills, identify areas for improvement and determine ways for self-development through training or attending different courses for the nursing profession. Davis et al. (2008) conclude that nurses are in need of clear direction, guidelines and standards that can structure and guide their nursing practice by integrating the nursing profession with a competency framework that will provide the basis for clinical practice and a tool for planning educational/ training programmes.

Recognizing nurses' contribution to community development, health promotion and public health is essential to enhance the respect for nurses' and midwives' roles and competencies, particularly district nurses working in a primary healthcare setting (Irvine, 2005). A range of

competencies are required for district nurses to fulfil their roles in health promotion in primary healthcare, and these competencies must include the three important components of knowledge, skills and attitudes. Irvine (2005) observes that these competencies should range from traditional to contemporary health promotion so as to make a better contribution to individuals' and communities' health improvement. As a result, the author elaborates that district nurses should be invested in to develop the competencies necessary to perform their assigned roles effectively.

In summary, it is clear that competencies have a major role to play in the performance of nursing as a job and these can be acquired through continuing education programmes. Nursing competencies are a vital component which enable nurses to perform their tasks. As health education is considered as one responsibility of PHC nurses, there is a need, first of all, to identify competencies so that they can be developed and applied in the practice in the context of S.A.

### **Assessment of Nurses' Competency**

As nurses are considered to be the largest group of healthcare professionals (Cross et al., 2006), it is essential to ensure healthcare organisations provide safe efficient healthcare, including public healthcare. A key aspect of this involves measuring the competency of nurses. Cross et al. (2006) point out that a public health-competency tool is useful and helpful for writing job descriptions, determining resource needs, evaluating nursing competencies and planning continuous educational requirements for nurses. A competency-assessment tool can help nursing leaders and decision-makers to guide nurses to implement public-health interventions and integrate public-health practice in the nursing process. Moreover, a competency assessment tool can help to direct the collaborative efforts of both education and nursing practice and assist graduate nurses to provide nursing care that is patient-, family- and public-centred.

There is a need for healthcare organisations to ensure that healthcare providers are assessed for competence, and this involves being prepared for scientific evidence-based practice (Swider et al., 2006). When it comes to determining who is responsible for assessing nurses' competencies, one organisation that plays a key role in the North American context is the Quad Council, which assesses competencies according to three levels: basic, intermediate

and advanced. The Quad Council is an association of four organisations that address public-health nursing issues: The American Nurses' Association (ANA), the Association of Community Health Nursing Educators, the Public Health Nursing Section of the American Public Health Association, and the Association of State and Territorial Directors of Nursing. Swider et al. (2006) identify that the Quad Council competencies were developed to ensure that nurses graduating in advanced practice successfully complete specific competencies. The authors point out that these competencies can help in identifying expertise that supports the organisation to enhance clinical practice, improve education programmes and curricula, help to manage performance issues and competency challenges, and strengthen the relationship between academia and clinical practice within the nursing profession.

Other authors have also pointed out that the development of a competency assessment programme is vital in order to meet regulatory bodies' standards and provide quality nursing care. For example, Arcand and Neumann (2005) point out that the (ANA) and Joint Commission on Accreditation of Healthcare Organisations (JCAHO)'s standards state that healthcare organisations must ensure that healthcare providers are both qualified and competent to meet licensure and accreditation requirements. It is the role of healthcare organisations to develop an ongoing competency-assessment process which matches the organisation's structure, culture and internal operational processes. Consequently, Arcand and Neumann (2005) conclude that a competency programme is a dynamic component to improve nursing performance and be competent to offer safe quality nursing care. This involves identifying areas for performance improvement so that appropriate training can be provided.

A more universal perspective is offered by Preheim et al. (2009), who suggest that a nursing fundamentals framework is essential for recognising core nursing competencies and professional roles related to quality and safety within the healthcare context. They believe that such a framework should focus on knowledge and skills that can be obtained from text books, procedures, physiological systems and developmental life stages to prepare graduate nurses to satisfy patients' needs in complex healthcare systems. In total, six competencies are put forward for inclusion, relating to patient-centred care, teamwork and collaboration, evidence-based practice, quality improvement, safety and informatics so that nurses are competent in ensuring the delivery of quality healthcare and patient safety. In addition, Preheim et al. (2009) argue that knowledge, skills and attitudes must be incorporated as

components of the nursing curriculum and recognised as competencies to continuously improve nursing performance in both education and practice. In order to achieve this, the authors argue that nursing-education and clinical-practice services must collaborate and participate in developing a competency programme.

### **Competency framework and examples**

It can be demonstrated from examining different professions generally, as well as nursing more specifically, that any professional practice is complex and must be thorough, which means that experience and knowledge are traits for an individual that can be passed down through levels and generations. Barnett (1994), Squires (2005), and Talbot (2004) all refer to the need for any employee to draw upon more knowledgeable and experienced individuals in the organisation, as this will help in overcoming and developing both the complexities and vagaries of professional practice. Hence, competency frameworks have been considered a necessity in harnessing the development potential of employees to deliver greater competency through the experience of others.

Moreover, competency frameworks deliver the reassurance that helps patients in their belief in and acceptance of healthcare practice. They also support the required practice standards for healthcare organisations, which are enhanced through the facilitation of correct and precise individual healthcare role descriptions. Furthermore, a competency framework furnishes education providers with the details required to comprehend the exact nature of training that will be required, as well as creating a basis for employers to construct and utilise a monitoring system to observe an individual's performance level (Talbot, 2004).

The framework of competencies that should be used for nurse specialists and healthcare workers was clarified by Affara (2009), who highlights the required competencies for registered nurses who have specialist clinical roles. However, this framework does not automatically include the core competencies that registered nurses must have obtained when working in particular practice areas which include administration, education, informatics, professional development, quality improvement and research. Health promotion competencies for registered nurses suggested for inclusion by Affara (2009) are as follows:

- Maintain own health and personal ability at work;
- Cooperate with other professionals and community groups in activities to reduce illness and promote healthy lifestyles and environments;
- Incorporate into practice a perspective that takes account of the multiple causes of health.

Proposed competency frameworks generally refer to more traditional work in the field. For example, the Dreyfus and Dreyfus (1980) model was adapted by Benner (2001, 2004), as well as by various nursing educators who also provide an explanation of the development of nursing skills. Hence, it has been highlighted that while competency frameworks are usually formulated to take account of modern trends, they tend to focus on a classical sense of understanding and structure. Furthermore, in practice, a competency framework has a series of practice levels covering five stages, beginning with novice, moving through advanced beginner to competent individual, followed by proficient and finally expert (Benner, 2001). Therefore, to fully detail the overall guidance of a competency framework, it is imperative to comprehend the internal structure of each level.

It has been demonstrated by Peña (2010) that a person who is at the novice stage is attempting to adhere to the rules and instructions provided without the distraction of any outside task. Simultaneous action and the ability to adhere to regulations while structuring one's ability through various other tasks only develops into competence through substantial experience. This level of proficiency can then be demonstrated by an employee who has gained broad insights into what is required for decision-making, as well as constructing their own formulated plans that will adhere to new or adapted rules. Moreover, when an individual's performance begins to become unconscious, unwitting and automatic, and no longer dependent on their explicit delivery of acquired knowledge, the employee progresses to the level of professional expert. Nevertheless, Benner's and Dreyfus' models for frameworks of competency were openly criticised by Thompson (1990), as they were perceived to be formulated with a distinct lack of social structure or knowledge, i.e. lacking recognition of how nursing practice depends on social knowledge and social conventions.

In addition to the five levels of competence outlined in the models, Miller (1990) developed a pyramid model which has a four-element analysis that focuses on individual competence in clinical work. First, 'knows', which is the acquisition of basic facts through limited recall

of knowledge, is stated as being the lowest level. Second is 'knows how', which is the contextualised application of clinical knowledge. Third is 'shows how', which is practised and enacted development and assessment of skills. Finally, 'does' is the actual enacted performance of competence in a live or present state of professionalism, this is the highest level of the four. While this model offers some further detail and greater distinction between the levels, as with the other models, it is not specific to PHC nurses and was not developed in the S.A. context. Herein lies the issue: there is a clear need to identify the competencies of PHC nurses regarding health education in S.A. As explained in Chapter One, health education plays a major role in the prevention of diseases and educates patients about the complications that may occur.

## **Educational philosophy of competency**

In order to work towards identifying the competencies of PHC nurses regarding health education in S.A., there is a need to examine the theoretical principles (i.e., educational philosophies) on which they can be based. Drawing on a wide range of previous literature, Norris (1991) outlines three different theories or constructs of competence, which are:

1. Behaviourist construct: this construct is considered to be the most prevalent one. It builds on a description of behaviour called 'performance' and the situation in which it takes place. Further, competence in this theory is something a person is or should be able to do. Competence mainly relates to a description of actions, behaviours or outcomes capable of demonstration and assessment.
2. Generic construct: this approach "favours empirical investigation to establish the competencies which discriminate between average and expert performers as opposed to the theoretical or logical requirements of a particular occupational function" (Norris, 1991, p.332). It helps to educate through behavioural events or critical incident interviews about the general abilities associated with expert performers. However, Pootinger (1975) notes that this approach avoids any specification of competencies, i.e. knowledge, procedures, skills and tasks which are components of many training manuals. Therefore, the generality of this approach made it either a strength or a weakness. Hence, Norris (1991) shows there are serious problems in the assessment of competence using this theory.
3. Cognitive construct: According to Flavell and Wohlwill (1969), competence is a cognitive structure which is shown in an activity, although transformation rules



have a different status. Also, competence is what a person thinks and can do under ideal circumstances (Norris, 1991).

When it comes to the present study, behaviourist constructs/ theories may provide a suitable foundation, as the aim is to identify health education competencies through changing the behaviour/ performance of PHC nurses. Moreover, the definition of health education, as stated in the second chapter, is a process of learning, which is focused on changing activity and behaviour in order to maintain health (MOH, 2011). It has been discussed that health education is concerned mainly with educational interventions towards improving the behaviour of people within the community (Ross & Mackenzie, 1996). This supports drawing on behaviourist theory in the present study, but it is essential to consider the setting, PHC, and the context of S.A. On the other hand, generic theory is not suitable for this study as competencies constitute the knowledge, skills and attitudes of PHC nurses regarding health education, and this specification was missing in the generic theory. Cognitive theory offers a general meaning and understanding of competency, by understanding how a person thinks, which is helpful for the present study. Therefore, the present study draws upon “behaviourist theory” and “cognitive theory”, as competencies are concerned with what people think and then transfer to actions and behaviours that can be improved.

## **Research framework**

As the above discussion has highlighted, selecting an overarching theoretical framework that can be used to guide identification of health education competencies for PHC nurses is a difficult issue. While there are several general competency theories, there is no specific model or theory for competency in PHC nursing in health education in S.A. A related point is that an issue identified with using the Delphi technique, which will be discussed in the next chapter, is the lack of a clear theoretical framework (Habibi, Sarafrazi & Izadyar, 2014). In this thesis, which identifies health education competencies for PHC nurses in S.A. using the Delphi technique, the framework is not applied based on the health-education models explained in the second chapter, as each model helps the current study in different ways. Although an overarching theoretical framework is not utilized, there are nevertheless clear conceptual foundations. Competences in this research comprise knowledge, skills and attitudes, which are intertwined to formulate and structure an individual's behavioural

personality and commitment. This conceptual framework is a good fit for the Saudi context; according to the strategic plan of the Saudi MOH (MOH, 2012), one of the recommendations for investment is in training and education for nurses in order to have nurses who are competent in the practice of health education. Therefore, it is essential to identify health-education competencies for PHC nurses, particularly when considering that part of PHC nurses' work is to provide health education for patients.

## **Conclusion**

This chapter has provided an overview of competency and competency framework meanings as well as examples in the nursing profession. The definition of competency that used in this research study has been identified and the reason behind this selection. The three components of competency have been discussed in detail: knowledge, skills, and attitude, and the relationships between these concepts, beliefs and attitudes has been outlined. This forms the conceptual basis for this thesis. Examples of literature on nursing competencies and how these can be assessed and evaluated has also been discussed, in order to facilitate achievement of the aim of this research. This chapter has also examined educational theories of competencies along with the challenges of selecting which are suitable for use in this research study. However, there is a deficiency of the theoretical framework when conducting a Delphi researches. The research framework and how it will achieve the recommendation of the Saudi (MOH, 2012) was explained. Identifying competencies to underpin the role of PHC nurses as health educators in S.A. is essential in order to improve health outcomes and increase the quality of care. The next chapter will explain the research methodology, which is Delphi, and its application to this study.

## **Chapter Five: Methodology**

### **Introduction**

This chapter will present the methodological approaches employed within this research study. The discussion will begin with a consideration of research paradigms and their influence on quantitative and qualitative methodologies. This will be followed by an explanation of the methods used for achieving formal consensus. Discussion of the Delphi technique will then follow, with details of its philosophical paradigms, explanation of the Delphi technique itself and how its design suits this study, leading to the aim and objectives of the research. Following this, the chapter will explain the process of data collection for this study and how data collection was conducted in S.A. Finally, ethical considerations will be addressed, including confidentiality issues.

### **Research paradigms and philosophy**

Over the last few years, consideration has been given to how philosophical paradigms and assumptions are deployed when conducting research (Therenou et al., 2007). Research paradigms and philosophy are a significant influence on research methodology. It is important to explore them in order to select and use the appropriate research design and data collection strategies. According to Johnson and Christensen (2008), a research paradigm is a perspective that is built on a set of common assumptions, values, concepts and practices. A paradigm has been defined as “the basic beliefs, systems, or the world view that guide the investigation, not only in choice of methods, but in ontologically and epistemologically fundamental ways” (Denzin & Lincoln, 1994, p. 105). Further, Williams (2011) sees a paradigm as a function of how the researcher thinks about the development and nature of knowledge. A research paradigm can be a combination of two ideas that are related to the nature of the world and the function of the researcher.

The key research paradigms can be described as positivism, interpretivism, a critical approach and poststructuralism (Mackenzie & Knipe, 2006). Lather (2006) and Dash (2005) outline the following four paradigms:

- Positivism, which predicts.
- Interpretivism, which understands.
- Critical orientation, which emancipates.

- Post-structuralism, which deconstructs.

**The positivist paradigm** for exploring social reality is based on the philosophical ideas of observation and reason as a means of understanding human behaviour; positivistic thinkers use this method as a way to generate knowledge. It imposes an objective world where methods can be used to represent and measure, and it aims to forecast and clarify causal relations between key variables (Dash, 2005). Although positivism has become a dominant institutional form in social research, this dominance is being increasingly challenged by critics who favour interpretive constructionism (Gephart, 1999), particularly because of its lack of consideration for the subjective state of individuals. Furthermore, it strips context from meaning in the process of seeking quantified measures for phenomena (Guba & Lincoln, 1994) and excludes interpretations from the data collected (Gephart, 1999).

**The interpretive paradigm**, on the other hand, is concerned with understanding the world of human experience (Cohen et al., 2013); it proposes that reality is socially constructed. Creswell (2007) states that this paradigm tends to rely upon participants' views and experience and the background of the case being studied. It imposes knowledge and meaning as acts of interpretation; hence, there is no objective knowledge that is independent of thinking, reasoning humans (Mackenzie & Knipe, 2006). Further, Guba and Lincoln (1994) discuss two main concepts that derive from qualitative approaches: interpretivism and constructivism. Schwandt (2000) explains how the constructivist paradigm is guided by knowledge being socially constructed by people who are active in the research process and that researchers have to attempt to understand the complex world of lived experience from the point of view of those who live it.

**Critical Research** has a long history, much of which is attributed to Georg Hegel (eighteenth century) and Karl Marx (nineteenth century). It is described as a critical pedagogy which mainly focuses upon eliminating injustice in society; critical research in today's context also aims to transform society, to address issues related to gender, sexual orientation, disabilities and other parts of society that are marginalized (Mackenzie & Knipe, 2006). Similarly to other research, critical research can be used to investigate in such a manner as to actively challenge interpretations and values to bring about change (Creswell, 2007). Mackenzie and Knipe (2006) argue that the consequences may be particularly significant, as they are influenced by other factors such as politics and members of society who have a personal agenda. Therefore, it is also known as the transformative paradigm.

**Post-structuralism** is a paradigm that is interested in investigating individual and social relations. It focuses more on the self as a construct that can be formed through language (Macdonald, 2002). The relationship between social elements and power is influenced by the indicators of power-knowledge and societal interaction. Typical research methods include observation and audio or visual recordings of interaction, in which participants position themselves. The main criticism of this research paradigm is that the method is often obsessed with self-agency and is difficult to control because people construct their own society (Lather, 2006).

## **Relationship between paradigms and methodology**

### **Quantitative methodology**

The main aim of a quantitative research approach is objectivity within its approach. This involves the use of objective measures in the belief that these measures can control or eliminate extraneous variables via assessments using standard tests and parametrics (Curry et al., 2013). Further, it has been stated by Hughes and Sharrock (1997) that objectivists consider empirical evidence to be important to gain knowledge about a phenomenon by reducing it to fixed, tangible and permanent matter.

In quantitative research, topics are reduced as far as possible to simple questions with quantifiable answers. The results are analysed to produce quantifiable, statistically significant data. These findings confirm (with a degree of certainty) cause-and-effect relationships, e.g. between drug doses and specific clinical signs and symptoms. The results of quantitative research are intended to be generalizable, i.e. the research method attempts to identify an objective truth that is applicable in all similar situations. These results are built around a large participant group. The quantitative research paradigm assumes the existence of an objective reality in which the known is independent of the knower (Pullen, 2000). Quantitative approaches using positivist research methods include tests and experiments, which can be controlled and used in measurements to support a hypothesis if one is included in the research (Marshall, Molina & Pelham, 2003).

There are two major approaches within quantitative strategies: experimental and non-experimental. According to Marshall et al. (2003), an experimental approach is used to control and manipulate study-related variables; randomisation of the selected study population is used in order to establish cause-and-effect relationships between different variables. Further,

an experimental approach also allows relationships to be identified through analysis and the management of future results can be achieved through manipulating independent factors to measure the effects on dependent ones (Denzin & Lincoln, 2000). The most important aspect of the experimental approach is that it is helpful when researchers are exploring a certain situation and outcomes, or setting up a hypothesis which can later be tested through an experimental approach (Creswell, 2007). A non-experimental approach in a quantitative context allows the researcher to build up an image based on an observable phenomenon that normally exists in the form of an event, person or situation (Mackenzie & Knipe, 2006).

The objective of a quantitative approach is to preserve an independent view, to understand research facts based on the data collected (Pope & Mays, 2000). There are some methods within quantitative approaches that allow direct contact with the participants, such as researcher-administered questionnaires, and other methods that have no direct contact, such as postal questionnaire surveys. This can be seen as a beneficial point for researchers, in that it avoids investigator involvement while collecting data, thus reducing bias (Mackenzie & Knipe, 2006). Surveys are typically selected when information from a large number of participants or people is required to answer a clearly defined question or set of questions. Surveys may help in the exploration of a large number of topics.

### **Qualitative methodology**

A qualitative method is characterised by its aim, which is to understand social life aspects, and its methods are generally to gather words rather than numbers for data analysis (Mackenzie & Knipe, 2006). Qualitative research is influenced by the unit of analysis, for example, the subjects' words or behaviour, and the research process deals with subjective rather than objective realities. It requires a holistic approach rather than looking to specific variables as in quantitative research. Further, it helps to develop concepts and theories to understand the social world (inductive approach to the development of theory), rather than a deductive approach, which quantitative research conducts (testing theories that have already been proposed). An attractive research paradigm for this methodology is interpretivism, because it also focuses on similar social factors that influence nature and social science where human beings, as opposed to inanimate objects, can interpret themselves or their environment. For example, a case-study research methodology is suited to this approach (Mackenzie & Knipe, 2006). What would a subjective reality be? It cannot be measured – it is individual, rich and descriptive. Qualitative research can address questions such as why patients may

have difficulty complying with a drug regimen, or why patients may seek longer or shorter stays in hospital (Pullen, 2000).

In the field of nursing practice, qualitative methods are used to analyse healthcare services and make a unique and critical contribution (Curry et al., 2013). For example, in an ethnographic approach, which is a qualitative technique for data collection, the method requires the researcher to become immersed in the group they study. However, the main aim of such research is to provide an insider view so that accurate observation can take place (Fudge, Wolfe, & McKevitt, 2008). The researcher and the phenomenon are connected together actively during the investigation and the outcomes of the study are mutually developed within the context of all situations, which helps to design the questions (Guba & Lincoln, 2005). Further, the relationship between personal beliefs and social rules is important for qualitative researchers in order to interpret and understand the behaviour of participants within particular contexts. Moreover, qualitative research involves the collection of participants' personal views, provided in their own words in a textual format, which helps to develop further the conceptual idea and increase the researcher's current knowledge (Avis, 2003).

### **Mixed methods approach**

Tashakkori and Creswell (2007, p. 7) have defined mixed methods as “research in which the investigator collects data and integrates the findings and draws inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry”. Andrew and Halcomb (2009) state that “*mixed methods*” is a third major methodological approach, which provides an alternative to purely quantitative or qualitative methodologies. It uses a combination of quantitative and qualitative approaches and mixed data. Furthermore, it highlights similarities and differences, triangulates data, and allows theory development (Creswell, 2013). According to Yeasmin and Rahman (2012) triangulation in social science, is a combination of two or more theories or approaches in one research study of a single phenomenon in order to meet on a particular construct. Also, triangulation has become accepted and popular in quantitative and qualitative research.

By using this approach, there is a chance to answer all the research questions, which leads to trustworthiness and generalizability of the research (Saunders et al., 2009). A potential advantage of mixed methods is that a combination can add more credibility to the research, as a qualitative approach provides more explanation to a quantitative study by adding depth

of meaning to numbers through the inclusion of narrative and dialogue; however, a quantitative approach adds precision to words through the inclusion of numbers and pictures which can be arranged and presented to answer the research question (O'Leary, 2005). Further, mixed method is suitable in research contexts which are unclear and it is not obvious what the results will denote (Buchanan & Bryman, 2009). In this research, Delphi technique followed with three rounds of questionnaire that analysed as quantitative tools.

### **Methods of formal consensus**

As the present study uses a consensus method, it is important to explain what consensus methods are, and to discuss the range of methods that are available, before outlining the specific technique employed within this study. Consensus methods are qualitative methods that attempt to assess the extent of agreement (consensus measurement) as well as to resolve disagreement (consensus development) (Jones & Hunter, 2000). There are two types of consensus approach that are used in planning programmes or organising decision-making: informal approaches, such as the Interactive Group Method and Committees, and formal approaches such as the Consensus Development Conference, the Nominal Group Technique (NGT) and the Delphi Technique (Jones & Hunter, 2000). A decision was made to employ a formal approach (Delphi technique) in the present study, as it is not essential to have group meeting where the participants meet each other in other formal approaches (NGT and consensus development conference).

### **Nominal group technique (NGT)**

Jones and Hunter (2000) argue that NGT uses a highly structured meeting to gather information from relevant experts (usually 9 to 12 in number) about a given issue. NGT was first developed in the United States in the 1960s as a procedure to facilitate effective group decision-making in social psychology research (Delbecq & Van de Ven, 1971). NGT involves a structured face-to-face meeting of experts. Individuals initially generate ideas in private. These ideas are then shared with the group in a round-robin fashion. A moderator then leads a group discussion in which ideas are presented and ranked (Jones & Hunter, 2000). NGT is very useful for gathering data from individuals and putting them into some sort of order, which is then shared by the group. Gallagher et al. (1993) consider that the strength of NGT lies in combining quantitative and qualitative data collection in a group setting, and avoiding the problems of group dynamics associated with other group methods. According



to the Evaluation Research Team in the Department of Health (2006), the limitation of NGT include that this approach need preparation and it has single purpose and single topic for meeting.

### **Consensus development conference**

A group of experts meet to consider evidence presented by other experts or interested parties who are not members of the decision-making group. The group members then retire to discuss the evidence and attempt to reach consensus (Murphy et al., 1998). According to Nair, Aggarwal, and Khanna (2011), the advantages of consensus development conference include that this approach combines group of people from different background along with lay people in some situation, and unbiased participants work together. However, the disadvantages of this approach are that interaction between the participants may not be organised, and this approach is not useful if new criteria sets are required.

## **Methods employed within this study: the Delphi technique**

### **Philosophical aspects for the Delphi technique**

Having explored the key research paradigms and their influence upon research, this section will discuss the philosophical issues underpinning the research method used within this study, the Delphi technique. Hanafin (2004) points out that it is difficult to draw clear conclusions about the paradigmatic assumptions underpinning Delphi studies, since it is reasonably clear that certain parts of the technique are more consistent with a constructivist paradigm and others more consistent with that of positivism. In this research, the positivist paradigm is consistent with the study aims as experts' opinions are sought about the knowledge, skills and attitudes required for PHC nurses regarding health education. As such, a decision was made to collect and analyse responses in numeric format.

In some way, it appears that the epistemological basis for the Delphi technique favours the positivist paradigm. Such a paradigm assumes the position of the researcher within the research to be that of an objective and uninvolved observer (Robson, 1993). Epistemology refers to how knowledge about 'reality' can be accessed (Benton & Craib, 2001). The objectivist position in the Delphi technique is supported through the utilisation of a quantitative approach to data collection and the application of single statistical measures for

the identification of ‘consensus’. The inclusion of ‘experts’ assumes an ontological position of single reality (on which ‘experts’ agree) and a reductionist approach to the identification of the phenomenon under study can also be understood as adhering to positivistic principles (Blackburn, 1999; Monti & Tingen, 1999).

Others, however, present the Delphi technique as subjective and qualitative in nature (Fitzsimmons & Fitzsimmons, 2006). However, Stewart (2001) explains that the aim of the Delphi technique is to achieve consensus through a process of iteration. The process itself is concerned with opinions and ideas, and it is also suggested that the purpose of the methodology (to achieve consensus through group interaction) is in keeping with an interpretative paradigm. Therefore, the Delphi technique can be associated with a positivist or an interpretivist paradigm, or both together, depending on the variant of Delphi used. This will be explained in the following section. However, in this study “positivist paradigm” is the philosophical aspect, as questionnaire is a tool for data collection and the results were analysed statistically.

## **Overview of the Delphi technique**

In contrast with the above discussion of the paradigmatic origins of Delphi, there is agreement that the Delphi technique was first used in technology forecasting studies and their effects on political issues initiated by the RAND (Research and Development) Corporation for the American military in 1944 (Gupta & Clarke, 1996). Since then, it has become a common way of eliciting opinions from people with expertise, even though the technique itself and the purposes for which it has been used have been extensively modified by researchers over the years (Gupta & Clarke, 1996; Crisp et al., 1997).

According to McKenna (1994), more than 1,000 studies had already made use of this approach by the early 1940s. Delphi encompasses the use of interviews or a questionnaire in an attempt to achieve agreement with regard to the views of a population of experts on the study topic. McKenna describes the instrument as ‘a multi-stage survey, which attempts ultimately to achieve consensus on an important issue’ (1994, p. 1221). Numerous authors have classed Delphi as a methodology (Baker et al., 2006; Buckley, 1995; Jairath & Weinstein, 1994a, 1994b; Murry & Hammons, 1995), while Stewart (2001) suggests that the literature is sprinkled with other terms, e.g. survey, technique, process, method, and approach – or sometimes, simply ‘Delphi’ – although some researchers use Delphi to explore not only

levels of agreement among experts, but also areas where they disagree. In addition, a Delphi survey is a useful method for collecting and aggregating the ideas and judgements of a large group of geographically dispersed individuals in a timely and cost-effective way (Hardy et al., 2004).

There has been a rise in its use in the domain of nursing over recent years. For example, as highlighted by Scherer et al. (1982), in some Canadian research, the Delphi method was successfully adopted with the aim of questioning respondents about their views on what constitutes good quality nursing care. Moreover, McKenna (1992) used a modified Delphi method to help ward managers select a nursing framework that was recognised as being the most suitable for the care of chronic psychiatric patients. In Northern Ireland, McKenna et al. (2000) used a Delphi technique with 38 primary care nurses, 14 general practitioners and eight public representatives with the aim of achieving consensus on the future function and structure of care in the domain of community nursing. In the north of England, Hitch and Murgatroyd (1983) utilised Delphi to examine the views of, and solutions to, communication problems on the part of nurses when managing cancer patients.

Further, Williams and Webb (1994) give several examples of studies in different academic disciplines which used the Delphi technique as a method for data collection, including a study conducted by Matthews et al. (1975) to plan educational courses for dieticians. The researchers used the Delphi technique to reach consensus on the professional role and activities of dieticians with 18 community-based professionals. Lawrence et al. (1983) used a series of panels covering all the medical schools in the United States to establish the content of a surgical curriculum. In this study, there were 1,685 panel members, which is considered to be a large group. Card and Fielding (1986) studied the problems experienced by 30 therapy radiographers when dealing with cancer patients, and found a need for training in communication skills for radiographers. In addition, Delphi has been used in health studies that aimed to identify competencies in different contexts (Boendermaker et al., 2003; Reetoo et al., 2005; Subbaroo et al., 2008; Singh et al., 2009; Almoallim, 2011; Lock, 2011).

Cuhls (2003) recommended follow up activities following the Delphi. Such activities may include: workshops, publications, conferences, and presentations. For the purposes of the present study, an interactive workshop was conducted, with a combination of service users and PHC nurses. This interaction allowed the researcher to understand the practicalities of

the health education competencies for the PHC nurses (the Delphi result). A detailed explanation of the workshop and its outcomes is included in Chapter Seven.

There are many variations of the Delphi Technique, which are explained by Keeney et al. (2010) and illustrated in Table 5.1:

**Table 5.1 Types of Delphi**

Type	Characteristics
Classic Delphi	Consists of a questionnaire sent out to a group of experts to elicit opinions.  Uses three or more postal rounds.  Can be administered by email.
Modified Delphi	Modification by replacing the first postal round with face-to-face interviews and/or a focus group.
Decision Delphi	Focuses on making decisions rather than coming to a consensus.
Policy Delphi	Uses the opinions of experts to come to a consensus and agree future policy on a given topic.
Real-time Delphi	Experts are in the same room.  Consensus reached in real time rather than by post.
E-Delphi	Administered by email or online Web survey.
Technological Delphi	Uses technology such as handheld keypads, allowing experts to respond to questions immediately.
Online Delphi	Questionnaires are completed and submitted online.
Argument Delphi	Focuses on the production of relevant factual arguments.  Non-consensus Delphi.
Disaggregative Delphi	Goal of consensus not adopted.  Considers various future scenarios for discussion.

To identify the competencies in which primary healthcare nurses should undertake health education, Classic Delphi will be used. Classic Delphi uses three or more postal rounds of questionnaires; usually, the first round will comprise open-ended questions to generate ideas for subsequent rounds (Keeney et al., 2010). However, for this study, the first round consisted of closed-ended questions, which have a commentary box to let the participants express additional comments. It is not considered to be modified Delphi, as this type begins with an interview or focus group in the first round. The detailed process of data collection will be explained later in this chapter.

## **Research design**

The systematic search strategy and synthesis of the literature explored in Chapter Three indicates that few research studies have considered primary healthcare nurses' views of health education and the strategies required to improve the health-education process within a PHC setting. This is a critical point, because if nurses have neither input nor ownership of health education competencies, and if they are not deemed applicable by nurses in practice, then it will be difficult to change or further develop practice, and thus enhance health education within primary healthcare nursing practice. Moreover, it is timely to elicit nurses' views given that PHC roles are changing to accommodate shifting patterns of health within S.A. Also, the studies reviewed in Chapter Three evaluated specific, health-focused interventions, rather than identifying how health education could be enhanced to incorporate core knowledge, skills and attitudes for PHC nursing and health education. The research is context-specific to Saudi Arabia, which has its own distinctive cultural and religious beliefs. Therefore, the Delphi technique is suitable for this PhD study as Delphi does not involve face-to-face contact with experts as found in other consensus methods, such as NGT; it was not necessary to meet together as a group. This is considered to be an advantage of Delphi, given the busy schedules of experts, and also ensures their anonymity and that of their responses; however, there is a chance of intimation and instruction in face-to-face meetings. Furthermore, due to the nature of social life in S.A., the participants may prefer to not meet with others, particularly if the meetings involve both men and women. Indeed, this has been identified as a challenge by the MOH (2009).

It is recognised by Keeney et al. (2010) that a number of issues are important when planning a Delphi process, most notably the appropriateness of the tool, resource availability and the level and definition of consensus to be utilised when carrying out the research. Delphi suitability refers to the scope and nature of the issue under examination, and establishing whether or not the approach is able to deal with the problem at hand. Moreover, circumstances where the technique is considered valuable are explained by Linstone and Turoff (1975), including the correlation or generation of informed judgements, the exposure to varying views, and the exploration of judgements.

When considering the application of the Delphi approach, researchers have highlighted the lack of guidelines for the instrument, meaning that any problems may need to be overcome without professional or empirical assistance (Keeney et al., 2010). Furthermore, researchers need to ensure familiarity with the administrative, analytical and organisational skills required, as well as how to deal with the subject population, either through the completion of electronic communications or questionnaires. Identifying and describing competencies for effective health education can guide education and training in the field of PHC nursing and, ultimately, result in nurses' competencies being put to the best possible use within client and community care.

Linstone and Turoff (1975) explored four reasons for choosing the Delphi technique in research: first, when the research problem does not lend itself to precise analytical techniques but can benefit from subjective judgements on a collective basis; secondly, when the research population may come from diverse backgrounds with respect to experience; thirdly, when more subjects are needed than can effectively interact in a face-to-face exchange; and finally, when time, cost and logistics would make frequent meetings of all the subjects unfeasible. Delphi is most appropriate when the "primary source of information sought is informed judgment" (Adler & Ziglio, 1996, p. 21). In addition, according to Vázquez-Ramos, Leahy and Hernandez (2007, p. 112), the aim of a Delphi study is to "elicit perceptions or judgements held by experts who are knowledgeable in a specialised area". This makes Delphi a suitable method for this study, as the study requires judgements from experts in a PHC setting. As explained earlier including nurses within the study and considering their selection of competencies may facilitate the nurses in their improvement of the competencies, and their application in nursing practice. Also, it has been stated that decisions made by groups are superior to those made by individuals (Holloman & Hendrick, 1972). In contrast, Mitroff and Pondy (1974) note that it may be risky to base future decisions on experts' opinions.

Consequently, expert opinions may be the best method for this research study if treated with caution.

## **Aim and objectives of this study**

**Aim:** To identify competencies that underpin the primary healthcare nurse's role as a health educator in Saudi Arabia.

### **Objectives:**

1. To identify the views of primary healthcare nurses as to the competencies (knowledge, skills and attitudes) required to engage in health education within a primary healthcare setting.
2. To determine whether consensus on the health education competencies required by nurses within a primary healthcare setting can be reached by engaging expert primary healthcare nurses in a formal consensus exercise (i.e. by using the Delphi Technique).
3. To engage service users, nurse managers and PHC nurses in a workshop that will present the competencies required, develop an action plan and make recommendations for piloting and evaluating during the post-doctoral period.

## **Data collection process**

Creswell (2013) states that data collection is the process in which the researcher prepares and collects data from the field in an effort to ensure that sufficient data are available for evaluation. Further, the selection of data collection tools depends on whether this tool achieves the objectives of the research, helps the researcher to solve problems, and supports suspicions and hypotheses (Royse, 2008). Time and resource availability have to be considered in the selection of tools (Krishnaswamy et al., 2009). Therefore, in this research study, data collection was conducted using a Delphi questionnaire which aims to identify health education competencies for PHC nurses. The Delphi questionnaire was complemented by an interactive workshop involving primary health care nurses and service users, to determine what actions were required to pilot and evaluate the competencies within the

primary health care environment, and to improve health education in the primary health care setting.

### **Delphi questionnaire**

The main purpose of the research is to identify the competencies required to underpin the PHC nurse's role as a health educator in Saudi Arabia. The first objective is to identify the views of practising PHC nurses in Saudi Arabia as to the competencies (knowledge, skills & attitudes) needed in order to engage in health education within a PHC setting, and the second objective is to determine whether consensus on the competencies required for health education within a PHC setting can be reached by engaging expert PHC nurses in a formal consensus exercise. Both objectives are highly dependent on a three-round Delphi questionnaire in order to determine the competencies needed. The questionnaire is a useful assessment tool that meets the first and second objectives of the research if individuals are the main focus (Mouton & Babbie, 2001; Redman, 2003). Furthermore, according to Thomas (2003) and Creswell (2007), a questionnaire enables participants to give their opinions and beliefs regarding a research issue. There are existing studies that have aimed to identify nursing competencies within different settings and with different subjects and used a questionnaire as a tool for data collection. They include:

- “Exploring District Nursing Competencies in Health Promotion: the use of the Delphi Technique” (Irvine, 2005).
- “Nursing Students’ Perceptions of their Resources toward the Development of Competencies in Nursing Informatics” (Jette et al., 2010).
- “A Delphi Study to Determine Informatics Competencies for Nurses at Four Levels of Practice” (Staggers et al., 2002).
- “Patient safety competence of Nursing Students in Saudi Arabia: A Self-Reported Survey” (Colet et al., 2015).

Consequently, a questionnaire is deemed to be an effective data collection tool, which will help directly to achieve the study aims as stated earlier the advantages of questionnaire. However, other tools such as interview may not achieve the aims of the study, due to the broad of data that may result from interview.



## **Design of the Delphi questionnaire**

It has been stated that it is difficult to design a good questionnaire; it needs effort, resources and time of between ten and 50 hours (Anderson, 1998). However, the main purpose of designing a questionnaire is to identify the views of experts in the field of nursing in S.A. PHC concerning identification of the necessary attributes that lead to conceptualising ways to raise the competence of nursing through the development of three core elements (i.e. knowledge, skills and attitudes) regarding health education in S.A. Custer et al. (1999) explained that in their use of Delphi, the questionnaire was drawn up from various sources, including related competency profiles and synthesized reviews of the literature. In the present study, the questionnaire design builds on previous/key studies on the nursing competencies required within different settings and applied in a way that is suitable and adapted to PHC and Saudi culture. These key studies are:

- “Identification of Nurses’ Competencies in Primary Health Care through a Delphi Study in Southern Brazil” (Witt & de Almeida, 2008).
- “Competencies for entry-Level Registered Nurse Practice” (College of Nurses of Ontario, 2014).
- “Constructing a Nurse Appraisal Form: A Delphi Technique Study” (Zaghloul & AlSokair, 2008).
- “The Health Education Impact Questionnaire (heiQ): An Outcomes and Evaluation Measure for Patient Education and Self-Management Interventions for People with Chronic Conditions” (Osborne et al., 2007).

Anderson (1998) suggested that a well-designed questionnaire facilitates the collection of valid and reliable data from the sample, which enhances the chance to be generalised; however, the issue of generalising is less straightforward in qualitative research. So, there will be a high chance of generalisability for the findings of this study, as it used a questionnaire as a tool of data collection. However, the conduct of this research in the Eastern Region of S. A. as explained below, is a potential limitation. Additionally, it is acknowledged by Thomas (2003) that a self-administered questionnaire distributed by hand to participants is considered to be the least expensive method to gain ample data; however, it may result in a low response rate as it depends on the participants’ literacy skills. In this study, a self-administered questionnaire was distributed by the researcher via the nurses’ manager over

three rounds. The selection of answers differs between the three rounds of a Delphi questionnaire, and this will be explained later in this chapter.

### **Translation process of the questionnaire**

The main reason for translation is to make the instrument available in the language required in the field of the study (Chidlow et al., 2014). It was important to translate the questionnaire as the main language used in S.A. is Arabic, and some medical documentation in PHC centres is in Arabic; this means that most of the participants preferred to respond to the questionnaire in Arabic in order to reduce the time required to complete the questionnaire. Further, Arabic is the main language that is used in the PHC centres in professional health care communication, except with people who do not have Arabic as their first language.

Peters and Passchier (2006) critique a ‘one way’ translation due to the process of the translation using only a singular time completion. It is considered the cheapest and quickest method, however, it has been considered to be lower quality than other methods. Consequently, researchers rarely use this method. In this current study, the process of translation was conducted following Brislin’s model of translation (Jones et al., 2001). This model of translation helps to prepare valid and reliable instruments for cross-cultural research. It was conducted by forward and back translation of the instruments by different translators in order to achieve agreement of items (Jones et al., 2001).

The first step of translation into Arabic was undertaken by the researcher and a Professor in the College of Nursing at the University of Dammam. After checking for similarities and differences, it was noted that there were no significant differences as both of the copies were very similar. The second step which is the ‘back-translation phase’ from Arabic into English was carried out with the support of a licensed translation agent in order to ascertain its exact reliability. Finally, both copies of the Arabic and English questionnaire were checked and approved as there were no further differences. It was imperative to check that the Arabic version was correct in order to ensure expert nurses’ answers were based on a clear understanding of the questions, as well as to increase the accuracy, clarity and consistency of the data. After that, a final version of the questionnaire in Arabic was ready to distribute to the participants in the study.

## **Validity and reliability of the questionnaire**

It has been stated by Creswell (2007) that content validity is conducted by asking experts who are familiar with the same topic of research and can make judgment on the selection of the tool for data collection. Therefore, Arabic and English versions of the questionnaire were piloted with a peer group of ten senior Saudi nurse managers and leaders (jury) to check for validity. A peer group was identified from within the postgraduate research community at the University of Salford and the academic staff at the University of Dammam. The questionnaires were checked and approved by them and slight amendments were made, to add more details in the section about increased knowledge about topics as a competency required for PHC nurses. This was a useful step in ensuring that participants could easily understand the questionnaire.

Williams and Webb (1994) argue that if experts are well matched to the topic being studied, then face validity will be high, and if consensus is reached there will also be high concurrent validity. Some authors consider that using experts automatically conveys a degree of reliability and validity to Delphi research (Bardecki, 1984; Goodman, 1987; Parente & Anderson-Parente, 1987). It is stated that reliability “refers to replicability of research results over time, different sites and populations, and with different researchers” (Schensul et al., 1999. p. 271). Moreover, Jillson (1975) presents guidelines to help ensure the reliability of Delphi research including: applicability of the method to a specific problem, selection of respondents and their expertise, design and administration of the questionnaire, feedback, consensus and group meetings.

To assess the reliability and applicability of the questionnaire for the target sample, Cronbach's alpha is the most common measure used. It is used with multiple Likert questions in a questionnaire and gives a value that is used to determine whether the scale is reliable. In this research, a pilot study involving 50 subjects tested the questionnaire for reliability. As shown in Table 5.2, the Cronbach's alpha value was above 0.70 for each component, which indicates a suitable level of internal consistency (Hair et al, 1998). The researcher confirmed the validity and reliability of the identification of the study in its final form and considers it to be valid for application to a baseline study sample; thus the researcher is confident of the validity of the questionnaire to collect the necessary data for the study.

**Table 5.2 Reliability test using Cronbach's alpha**

Item	No. of Items	Cronbach's alpha
Skills	10	0.768
Knowledge	25	0.763
Attitudes	13	0.763

### **Sample of the study and access to PHC centres**

In Delphi studies, the research aim, resources and complexity will impact on the number of individuals included in the research. A larger sample size may help to achieve better results (Clayton, 1997). However, large samples can cause problems in terms of difficulties with management and a low response rate (De Villiers et al., 2005). Further, it has been noted by Keeney et al. (2010) that the population sample must comprise only experts in the field of study where, as noted by McKenna (1994), experts are defined as ‘a group of informed individuals’ or, as noted by Goodman (1987), people who are ‘specialists’ in their field or people who have knowledge about a specific subject (Davidson et al., 1997; Lemmer, 1998; Green et al., 1999). However, it is explained by Keeney et al. (2006) that there are no universally agreed criteria when choosing experts, nor is there any advice on how many individuals should be selected. Commonly, panels are seen to include 15–30 subjects from the field, or 5–10 from different categories (Linstone & Turoff, 1975).

A purposive sampling technique allows the researcher to select the participants for an in-depth and appropriate exploration of the research topic based on their specific characteristics. Also, this is primarily used when a small number of people have expertise in the research topic (Robson, 2011). Then, the sample will suit the needs of the research by including those who can discuss a particular experience more than those who have no experience of a specific situation (Taylor, Sinha & Ghoshal, 2006). In this research, a purposive sampling technique was used to identify participants who satisfied the following criteria: a) have a bachelor’s degree in nursing and at least one year of nursing experience, or a diploma in nursing with at least four years of nursing experience, b) ability to speak Arabic and/or English.

Recruitment for the study focused on 60 PHC nurses to identify health education competencies that match the inclusion criteria for the sample. As explained earlier, there are no guidelines for sample size in Delphi studies. A decision to recruit 60 participants for this study was taken as a result of reading other Delphi competencies studies that recruited 40–70 subjects. For example, Suckley (2012) recruited 72 experts from various specialities to identify core clinical competencies for extended-scope physiotherapists working in musculoskeletal interface clinics based in primary care, and Irvine (2005) recruited 72 PHC professionals to explore district nursing competencies in health promotion. Further, this number of 60 participants was considered appropriate for the research in order to be able easily to manage three rounds in the limited time available for data collection. Participation in this research was voluntary; there was no pressure on anyone to take part.

The research was conducted in the three main cities of the Eastern Region of Saudi Arabia, i.e. Al-Dammam, Al-Khubar and Al-Ahsa. These cities were selected as they have the main concentrations of PHC facilities in the Eastern Region. The researcher has established networks in those cities due to her professional role as a nurse-education lecturer, and site visits took account of societal expectations about gender, travel and communication. The study took place in six PHC centres in Al-Khubar, four in Al-Dammam and one in Al-Ahsa. The participant selection criteria within these PHCCs are discussed below.

A letter was sent to the nurses' managers to make an appointment and set up a meeting to explain the purpose of the study and to offer other related information (Appendix 1). Then, the researcher visited the respective health-centre managers in the three cities to explain the study to the managers and provide information sheets (Appendix 2) for the managers to distribute to their PHC nurses who met the inclusion criteria for the Delphi study (i.e. those having a bachelor's degree in nursing with at least one year of nursing experience, or a diploma in nursing with at least four years of nursing experience and the ability to speak Arabic and/or English). The experts who participated in the study signed a consent form (Appendix 3) prior answering the first round of Delphi. The process for selecting workshop participants, which will be explained in detail in Chapter Seven, involved identifying a combination of PHC nurses and service users.

## **Consensus**

As the study is not directly related to a life-or-death issue, a consensus of 60 per cent or more (frequency test) will be considered suitable to develop health education competencies to be

used by PHC nurses. However, Loughlin and Moore (1979) suggest that a consensus should seek agreement from 51 per cent of respondents. Keeney et al. (2006) note that it is difficult to gain full agreement on all issues covered in a study from all respondents. The percentage agreement that a researcher accepts as being synonymous with consensus is related to the importance of the research topic. Therefore, studies about life-and-death issues should seek 100 per cent consensus, but for topics that are related to the selection of, say, a new nurses' uniform, a 51 per cent consensus is acceptable. Furthermore, it is preferable for the research team to establish a definition of consensus before starting the data collection process, because many Delphi studies are used to formulate policy for funding new research or service developments. Published studies set consensus at different levels using different measurements, such as percentage (Orton, 1981), median score (Mead, 1993) and standard deviation (White, 1991).

### **Three rounds of the Delphi questionnaire**

Commonly, the first round of a Delphi approach begins with posing open-ended questions to enable subjects to respond freely, which will in turn enable the investigator to create ideas linked to the study topic. It is, however, acknowledged that the first round could result in bias being witnessed in the responses, or the options available may be limited. Subsequent rounds can utilise a structured questionnaire following an analysis of the first round's results, where expert subjects in the research rate or rank results in line with their views on the topic. It is pivotal that the rounds continue until agreement is established on all or some items, as necessary (Keeney et al., 2000).

This study used three rounds, as Keeney et al. (2006) point out that the number of rounds in a Delphi technique depends on the time available and whether or not consensus has been reached; therefore, there are no strict guidelines for the correct number of rounds. Recent studies in the literature have shown that the number of rounds generally varies between two and four. For example, in Hasson et al., (2000) were used two rounds in their study, while Keeney et al., (2001) used four rounds to reach consensus. McKenna (1994) feels that participants might be exhausted after two rounds, in particular busy experts and hard-pressed clinicians.

According to Suckley (2012), three rounds of Delphi were used to identify core clinical competencies for extended-scope physiotherapists working in musculoskeletal (MSK) interface clinics based in primary care. The first round used an unstructured questionnaire

whereas structured questionnaires with Likert scales were used in the second and third rounds. Two rounds of Delphi were used by Zaghloul and AlSokair (2008) in order to devise a unified nurse-appraisal format to be used in hospitals operating within different healthcare organizations in the Eastern Province of Saudi Arabia. The first round was distributed to head nurses to determine which items should be included on the appraisal form, and they selected the type of a format from: Checklists, Graphic Rating Scale, Narrative or Essay Evaluation and Ranking. In the second round, participants ranked the 11 items from the first round according to their importance.

In the present study, a decision was made to use three rounds of the Delphi questionnaire after examining the literature above and discussing this with the supervisory team, as well as considering other issues such as the time required. The details of each round will be explained in the following section.

### **First round**

The first round of the Delphi started with a questionnaire (Appendix 4) to identify the participants' opinions about what items should be included within health education competencies for PHC nurses by selecting *Yes*, *No* or *Uncertain*. This enabled (objective 1) of the study to be met. As discussed above, a number of papers and key texts relating to questionnaires were used as reference material during the development of the questionnaire for the first round (Witt & de Almeida, 2008; College of Nurses of Ontario, 2014; Zaghloul & AlSokair, 2008; Osborne et al., 2007). Also, the questionnaire consisted of three main sections (knowledge, skills and attitudes), with each section being concerned with vital items of health education in a PHC setting. There was a comments box after each section to allow participants to add any comments relating to how these items should be taught and assessed or potential barriers to including and using these items in a PHC setting. The questionnaire was delivered to the participants after communication with and approval from the nursing managers, who were then responsible for communicating with the researcher when the questionnaires had been completed.

**Response rate:** No specific guidelines exist for an acceptable response rate for Delphi studies. A review of Delphi literature reveals variations in response rates from 8% (Cooney et al., 1995) to 100% (Owens et al., 2008). A number of authors (Bork, 1993; Walker & Selfe, 1996; Sumsion, 1998) suggest a 70% response rate is necessary for each round to maintain rigour. However, this requires considerable effort. Also, Linstone and Turoff, (1975) argue that

examining the distribution of responses is important because group agreement may not be as strong as it first appears. In this research, sixty questionnaires were distributed for the first round; four nurses refused to give written consent and another five did not respond. This necessitated the distribution of another nine questionnaires in order to meet the sample of 60 for this study. Accordingly, the initial response rate was 60/69 (87%).

**Analysis of the first round:** Keeney et al. (2010) explain that demographic data should be collected in the first round, these should then be analysed to give an overall profile of the expert panel. However, it is not essential to collect demographic data within a Delphi process, especially if the members of the expert panel are well known to the researcher. An SPSS database was set up using the demographic labels as variables, e.g. age, gender, years of experience and number of publications in the area. Then, data were input into SPSS for each expert panel member, and linked to their code. Descriptive statistics are used to determine the median, and in some cases researchers also calculate the standard deviation to examine the range of responses.

As above, data analysis was carried out for the three rounds of Delphi. The analysis started after the collection of the questionnaires from the nurses' managers. The researcher worked with an expert 'statistician' Professor at the University of Dammam during the whole process of analysis for the three rounds of questionnaires. According to the study aim, descriptive statistical data is presented by calculating averages, percentages, and frequency distributions (Zikmund & Babin, 1997). The study seeks descriptive statistics as level of consensus, as this study is not aimed to test specific correlation or hypotheses as discussed above. This has the benefit of making the findings easy to understand and interpret. No missing data was noted in the three rounds, which reflects on the interest of participants in the study.

After completion of the first round over one month, data were coded and entered into a computer. The scoring system for the statistical test required that each variable should be dichotomous as explained by Pallant (2013). The variables were scored (1) for *Yes* and (0) for *Uncertain* or *No*. The data was checked and reviewed for correction of any errors during data entry. SPSS version 17 was used due to its comprehensiveness and completeness for the analysis of data. The consensus rule used in this study states that items scoring 60% or more in the 'yes' category should be retained and not sent through to the next round for rerating. Items scoring less than 60% were sent through to the next round for rerating. There was no qualitative data in the comments box, which lead to use SPSS solely for the analysis. The



process of analysis of the first-round questionnaire data and developing the second-round questionnaire took one month. During this period, the researcher maintained a relationship by phone with nurse managers in order to encourage the participants to complete the three rounds of Delphi.

However, Keeney et al. (2011) point out that some Delphi researchers remove statements which reach consensus, bank them and set them apart from the next round. Statements that have not reached consensus are included in the next round and the expert panel are asked to re-consider their response. Therefore, excluding statements that have already reached consensus shortens the questionnaire, which may encourage the expert panel to complete it. As such, a decision was made to follow this approach in the present study. On the other hand, by keeping all statements in all rounds, every statement has an equal chance to gain the highest importance rating and level of consensus. As with many aspects of Delphi, this is a decision that has to be made by the researcher when considering all the factors pertaining to their specific Delphi study.

## **Second round**

The questionnaire used in round two (Appendix 5) was based on the results of round one, but it was more structured than the first one. This facilitated (objective 2) by engaging expert PHC nurses in a formal consensus exercise using Delphi technique. It retained eleven items which did not reach consensus in the first round. The experts ranked items according to their perceived importance within the health-education process by PHC nurses. Items were ranked from (1) to (5) using a Likert scale by selecting (*strongly agree, agree, neutral, disagree or strongly disagree*). According to Michie (2014), a Likert scale is a simple measure for respondents due to the different levels of discrimination for each item in the questionnaire. Keeney et al. (2010) confirm that a Likert scale is a psychometric scale that is commonly used in many types of questionnaire and is the most widely used scale in surveys across all disciplines. It is frequently used in questionnaires to help respondents indicate their level of agreement with a statement. This makes the Likert scale ideal to use within a Delphi questionnaire as the technique is most concerned with agreement and consensus. Using a five-point Likert scale provides sufficient discrimination among the levels of agreement. However, using extra points, such as seven or nine, could increase the time required to complete the questionnaire, especially if it has many variables to be measured. Furthermore, Michie (2014) confirms that using more than five points in a Likert scale (7 or 9) makes it

difficult for participants to discriminate, in contrast with a five-point Likert scale where it is easy to distinguish between moderate and strong choices.

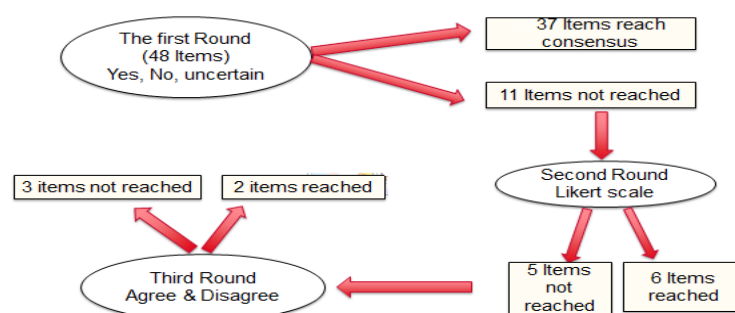
The second-round questionnaire was distributed in the three cities over one week, and collected back two weeks later in order to be analysed and to develop the third-round questionnaire. The response rate was 100 per cent, which indicates impressive cooperation and interest from the participants in the study.

**Analysis of the second round:** After the second round was completed, data were coded and entered into a computer. The scoring system for the statistical test requires that each variable should be dichotomous. The variables are scored (1) for *strongly agree* or *agree*, and (0) for *neutral*, *disagree* or *strongly disagree*. It is not essential to determine the importance level of the items in the competency, rather the aim is to identify the competencies regardless their importance. As stated earlier, the level of consensus in this research is 60 per cent or more, and of the 11 competencies, six items relating to experts' knowledge, skills and attitudes reached consensus in the second round. Thus five items were retained for the third round. Analysis of the second round data and developing the third-round questionnaire took place over three weeks.

### **Third round**

The third-round questionnaire was distributed in the three cities over one week, and two weeks later they were collected back for analysis. The third-round questionnaire (Appendix 6) determines whether participants agree or disagree with the proposed health-education competencies (objective 2). The five items which did not reach consensus in the second round were included in the third round. Analysis of round three was again completed using SPSS. The variables were originally scored (1) for *agree* or (0) for *disagree*. The results will be shown in the next chapter. Figure 5.1 summarises the three rounds of Delphi.

## Delphi Process



**Figure 5.1 Summary of the three rounds of Delphi**

After completing the three rounds of Delphi and analysing their results to identify the health education competencies for PHC nurses in S.A., the researcher conducted a workshop for a group of PHC nurses, nurses' managers in PHC, and service users. This workshop aimed to present the findings (last competencies which reached consensus) and the items which did not reach consensus in order to understand the practicalities of application; how to introduce these competencies to the PHC nurses. It is essential to keep in mind that while the workshop did not influence the results of the Delphi, it did support validation of the data. There will be a full explanation of the workshop and its outcomes in Chapter Seven.

### **What happened between the three rounds of Delphi?**

Several factors influenced experts' changes of opinion between the rounds of Delphi, such as experience, personality, confidence, main beliefs and values. Also, some experts are likely to complete the questionnaires as quickly as possible, while others may not feel interested in this iterative process (De Meyrick, 2003). Further, consensus can be reached in Delphi when experts feel that their work might be affected due to the outcomes of the research (Hasson et al., 2000). However, Clayton (1997, p. 382) states that it is "unknown whether panel members think through their relative positions and work towards authentic consistency of opinion, or if they are effectively pressured into conformity". And Woudenberg (1991) explored how experts in a Delphi study can still feel group pressure to conform and agree on some points of the research.

In this study, consensus might have been reached due to pressure to 'agree' on some items from among the participants themselves, so as to have the same result as their own views and opinions. It was difficult to investigate the reasons for participants changing their opinions

between rounds and also to examine the characteristics of those participants. However, the period between the first and second rounds was a national holiday in S.A. when none of the participants reported attending classes or conferences. Moreover, between the second and third rounds, no participants reported attending classes due to their workloads and there were no courses or education programmes to pursue staff development, as they mentioned when the researcher collected the questionnaire. Repeating this Delphi study after a year or more with the same group of experts might result in different outcomes. For example, Uhl (1975) repeated his Delphi one year later with the same experts. The results for that second Delphi study were similar to the first round. This result led him to realise that experts tend to return to their original ideas and opinions and so change may be temporary.

According to Keeney et al. (2006), experts in Delphi may change their opinions due to the iteration process, as they think in a different way when responding to the same items later. Additionally, it has been stated that less knowledgeable experts are more likely to be influenced by a belief that a group opinion is the right response, while the more knowledgeable experts do not conform to this norm.

## **Ethical considerations**

During the research process, a researcher has responsibilities to their participants, colleagues, supervisors and any other people who are directly or indirectly involved, and this needs to be given careful consideration. During the entire process of data collection, compilation and presentation, ethical considerations were adhered to. To start with, the respondents were fully informed about the purpose of the process (Cohen et al., 2013). The University of Salford Ethics Committee granted ethical approval for the study, as did the Directorate General of Primary Healthcare Centres in the Eastern Region of Saudi Arabia, which is part of the Ministry of Health (Appendices 7 & 8).

## **Informed consent**

Everyone who participated in the questionnaire had to be informed about their role and responsibilities and also had freely to consent to participate without any unfair pressure. Therefore, all participants were well informed before receiving the questionnaire about what participation entailed and were reassured that deciding not to participate would not affect

their work. According to Rotchford and Rotchford (2002), a better technique is to inform using two types of consent, one written and the other verbal, because sometimes written consent may in some situations frighten an individual participating in the questionnaire process; the participants may think that refusing taking part in the research may have negative influence on their work. A consent form (Appendix 3), approved by the University of Salford, and was signed by all participants prior to participating in the study. All participants received information about the study so that they could make an informed choice about participation (Appendix 2). It is unlikely the study focus would cause disquiet for the participants; however if there were any concerns then the participants were asked to discuss these with the researcher/ supervisor in the first instance. PHCCs managers gave permission before the researcher contacted any staff about the study.

### **Confidentiality and data protection**

It is essential to maintain confidentiality during the whole process of data collection. Research data which indicates the identity of participants was not released to anyone as a result of this study, unless there was written authorization from the participants. All records remained confidential to the researcher. The names of participants recorded on the consent form and the questionnaire were only accessible to the researcher and supervisory team. All participants were assigned a code during data entry into the computer database. Moreover, all information was handled and stored strictly confidentially in accordance with the requirements of the Data Protection Act (1998). This information was only available to members of the research team at Salford.

All data from the questionnaire was anonymised. The names and contact details of participants were removed from the questionnaires and stored separately in a password-protected computer hard drive at the University of Salford. The study requested demographic data, but not any personal information. Access to this data was only available to the researcher and the supervision team at the University of Salford. The information sheet and consent form stated that the results were to be used only for the academic award of PhD and future academic publications. Additionally, ethical consideration was maintained during the interactive workshop that followed the Delphi. The participants (PHC nurses and service users) were given a package including an information sheet about the workshop and a consent form (Appendices 9 & 10).

## **Conclusion**

This chapter has discussed a broad range of issues from research paradigms to data collection and ethics. The research paradigms and philosophy were discussed in the early part of the chapter, along with an explanation of quantitative and qualitative methodologies. Also, in this chapter, the Delphi technique was explained and its use was justified within this research study. Ultimately, a quantitative version of Delphi was employed based upon positivist assumptions. The methods for data analysis have been explained, and the research results will be presented in the next chapter. The interactive workshop, which is considered to be an activity to explain how these competencies can be introduced to PHC nurses, will be discussed later in the thesis.

## **Chapter Six: Data Analysis and Results**

### **Introduction**

This chapter will present the research results, drawing on the findings from three rounds of Delphi. In the first part, there is a description of the demographic characteristics of the expert panel across the three cities where the research was conducted. The results from each round of Delphi are then given, illustrating the items that did and did not reach consensus during the analysis. Consensus was set at 60 per cent, in accordance with Keeney et al. (2006), in order to achieve the aims and objectives. These competencies will be presented in the final results for this Delphi study.

### **The demographic characteristics of the PHC nurses**

Table 6.1 shows that 17 of the respondent nurses were from Al-Dammam, 36 from Al-Khubar, while the remaining seven were from Al-Ahsa. Considering gender, there were five males from Dammam, four from Al-Khubar and one from Al-Ahsa. Bachelor degree (BSN) level education had been achieved by six respondents from Dammam, ten from Al-Khubar, and four from Al-Ahsa. The remaining 40 were diploma certificate holders who matched the inclusion criteria, (a. had a bachelor's degree in nursing and at least one year of nursing experience, or a diploma in nursing with at least four years of nursing experience, b. ability to speak Arabic and/or English). The average (mean) age of the total sample was 33 years, with a standard deviation of 7.2 years. The average experience of all experts was 10.8 years.

**Table 6.1: Demographic characteristics of PHC nurses.**

	<b>Dammam</b>		<b>Al-Khobar</b>		<b>Al-Ahsa</b>		<b>Total</b>	
	N	%	N	%	N	%	N	%
	17	28.3%	36	60.0%	7	11.7%	60	100%
<b>Age (years)</b>	M	SD	M	SD	M	SD	Overall M	Overall SD
	33	6.9	34	7.7	28	3.0	33	7.2
<b>Gender :</b>								
Male	5	29.4%	4	13.9%	1	14.3%	10	17%
Female	12	70.6%	32	33.3%	6	85.7%	50	83%
<b>Qualifications:</b>								
Diploma	11	64.7%	26	72.2%	3	42.9%	40	67%
Bachelor (BSN)	6	35.3%	10	27.8%	4	57.1%	20	33%
<b>Work experience (years):</b>	M	SD	M	SD	M	SD	Overall M	Overall SD
	10.9	9.1	11.9	8.5	4.3	4.5	10.8	8.5

## Analysis and results for the first round

Forty-eight (48) competencies were available in round one (Appendix 4). The objective of the first round was to collect the views of primary healthcare nurses as to the competencies (knowledge, skills and attitudes) required in order to engage in health education within a primary healthcare setting. As discussed in Chapter Five, items were scored (1) for *Yes* or (0) for *Uncertain* or *No*, and selection by 60 per cent of participants was used as the threshold for consensus. Thirty-seven (37) competencies reached consensus in the first round and those items were removed from the Delphi questionnaire for the second round. Eleven items did not reach a consensus level. These items will be discussed later in this chapter.

### Items reaching consensus in the first round

As displayed in Table 6.2, out of 37 competencies, 19 items about experts' knowledge (11 topics, 3 education style & 5 community presence) reached consensus in the first round and are listed in an ordered manner.



**Table 6.2: Items of PHC experts' knowledge needed for competent health education in S.A. that reached consensus in the first round.**

<b>Knowledge</b>	<b>Yes</b>	<b>Uncertain</b>	<b>No</b>
<b>Topic</b>			
Knowledge about diabetes	98.3	1.7	0.0
Nutrition and appropriate dietary behaviour	98.3	1.7	0.0
Physical activity and fitness regime	98.3	1.7	0.0
Knowledge about asthma	95.0	5.0	0.0
Counsel the patients by taking preventive measures	95.0	5.0	0.0
Injury prevention by recognising safety precautions and using first aid	95.0	5.0	5.0
Knowledge about epidemics of infectious diseases	93.3	5.0	1.7
Parameters of women's health	90.0	8.3	1.7
Knowledge of epilepsy/seizure	90.0	5.0	5.0
Food allergies – e.g. G6PD	81.7	16.7	1.7
Smoking prevention	78.3	21.7	0.0
<b>Education Style</b>			
Using posters and modern technology	93.3	5.0	1.7
Using self-skills in teaching to develop forward thinking in patients	90.0	6.7	3.3
Application of such thinking strategies as mind-mapping in health education	70.0	23.3	6.7
<b>Community Presence</b>			
Knows the community as a whole	95.0	3.3	1.7
Aware of health beliefs and views	93.3	6.7	0.0
Identify existing health resources and access to public services available to the community	91.7	6.7	1.7
Establish standards for conducting needs assessment	78.3	18.3	3.3
Determine the geographical boundaries of service areas	61.7	28.3	10.0

Table 6.2 illustrates the responses for diabetes, nutrition and physical activity as the topics with the highest percentage of support (98.3%), while the percentage was 95% for asthma,

using preventive measures, injury prevention and safety precautions. Next were infectious diseases, women's health, epilepsy and food allergies. The lowest level of support for a topic that reached consensus was 78.3% which relates to knowledge about smoking prevention. Also, this table shows items related to more knowledge about education style with the highest percentage for using posters and modern technology at 93.3%. The lowest was 70% for the application of such thinking strategies as mind-mapping in health education. This table also shows items related to more knowledge about community presence, with 95% support for knows the community as a whole. In contrast, there was 61.7% support for determine the geographical boundaries of service areas.

In Table 6.3, seven items about experts' skills reached consensus in the first round and are listed according to level of support. This tables shows that 93% of the participants selected the skill of practising health-enhancing behaviours as important for health education within a PHC setting. Following that is a percentage of 91.7% for the skills of supporting personal, family and community health, using communication skills and active listening to feedback in health-education sessions for patients. The lowest percentage is 73.3% for usage of decision-making skills.

**Table 6.3: Items of PHC experts' skills needed for competent health education in S.A. that reached consensus in the first round.**

	Yes	Uncertain	No
<b>Skill</b>			
Practising health-enhancing behaviours	93.3	5.0	1.7
Supporting personal, family and community health	91.7	6.7	1.7
Using communication skills, talking to patients and families to convey information effectively	91.7	6.7	1.7
Active listening to feedback in health education sessions for patients.	91.7	5.0	3.3
Ability to access valid information, products and services to enhance health	90.0	3.3	6.7
Using goal-setting skills to enhance health	86.7	11.7	1.7
Usage of decision-making skills	73.3	25.0	1.7

Eleven items about experts' attitudes (four for professional development, seven for professional preparation) reached consensus in the first round and are listed in an ordered manner (Table 6.4). All the experts agree, with a percentage of 100%, on an item about being ready to accept professional development, i.e. educate patients about skills that will improve their health behaviour. Following that, 98.3% of respondents supported has a positive attitude towards the role of health education and willingness to engage in staff development. The item relating to attitude which received the least support of those reaching consensus was deal in an unbiased manner with each patient's problems, at 60%.

**Table 6.4: Items of PHC experts' attitudes needed for competent health education in S.A. that reached consensus in the first round**

Attitudes	Yes	Uncertain	No
<b>Receive Professional Development</b>			
Educate patients about skills which will improve their health behaviour	100.0	0.0	0.0
Educate patients from various cultural backgrounds, without discrimination	95.0	1.7	3.3
Assessing or evaluating nurses in health education	93.4	3.3	3.3
Encouraging family or community involvement	66.7	33.3	0.0
<b>Professional Preparation</b>			
Has a positive attitude towards the role of health education in the community as a whole	98.3	1.7	0.0
Willingness to engage in staff development	98.3	1.7	0.0
Respect other opinions and viewpoints as the community involves people with multicultural backgrounds	96.7	3.3	0.0
Improved interaction with other healthcare providers.	96.7	1.7	1.7
Work according to ethical values and principles	95.0	5.0	0.0
Empowerment, which means the ability to educate patients by preparing and developing their teaching/ educational skills.	83.3	15.0	1.7

Deal in an unbiased manner with each patient's problems, bearing in mind the individual's needs	60.0	28.3	11.7
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### Items not reaching consensus in the first round

Eleven items did not reach the consensus level in the first round as they achieved less than 60% support. Six items about experts' knowledge (two topics, three education style and one community presence) did not reach consensus and are listed in an ordered manner (Table 6.5). This table shows that less than the half of the experts (46.7%) stated the importance of alcohol as a topic to increase the knowledge of PHC nurses' competencies. Also, 58.3% of the experts selected knowledge of mental health as a competency. Regarding education style, this table shows that only 21% of the experts identified that the use of drama and stirring up emotions in health education is effective in health education. And 31.7% of the experts selected awareness of the importance of using outside resources as essential in health education. As shown in Table 6.5, 56.7% of respondents selected identify health conditions and health disparities found in major demographic groups and geographic areas as a competency related to increased knowledge of community presence for health education.

**Table 6.5: Items of PHC experts' knowledge needed for competent health education in S.A. that did not reach consensus in the first round**

Knowledge	Yes	Uncertain	No
<b>Topic</b>			
Knowledge about alcohol or other drugs use	46.7	20.0	33.3
Knowledge about mental health disorders	58.3	40.0	1.7
<b>Education Style</b>			
The use of drama and stirring up emotions in health education	21.0	28.3	50.0
Awareness of the importance of using outside resources	31.7	45.0	23.3
Using a range of learning and education activities and flexibility in the use of teaching strategies	58.3	40.0	1.7

<b>Community Presence</b>			
Identify health conditions and health disparities found in major demographic groups and geographic areas	56.7	40.0	3.3

Five items about experts' skills & attitudes (three skills & two attitudes) did not reach consensus (less than 60%) and are listed in an ordered manner (Table 6.6). This table shows that just 56.7% of the participants selected ability to adapt communications according to patients' needs and use of interpersonal communication skills as important for inclusion within health education competencies. Similarly, 58.3% selected ability to analyse the influence of family, peers, culture, media, technology and other factors on individuals' health behaviour and using interactive counselling methods with patients and their families as competencies for health education. Finally, 55% of participants selected classroom management techniques to be included within the competencies for health education; although this represents more than the half of the participants this competency did not reach consensus as it was less than 60%.

**Table 6.6: Items of PHC experts' skills and attitudes needed for competent health education in S.A. that did not reach consensus in the first round**

<b>Skills &amp; attitudes</b>	<b>Yes</b>	<b>Uncertain</b>	<b>No</b>
<b>Skills</b>			
The ability to adapt communications according to patients' needs	56.7	36.7	6.7
The ability to use interpersonal communication skills	56.7	38.3	5.0
The ability to analyse the influence of family, peers, culture, media, technology and other factors on individuals' health behaviour	58.3	40.0	1.7
<b>Attitudes (Professional Development)</b>			
Classroom management techniques	55.0	41.7	23.3

Using interactive counselling methods with patients and their families	58.3	20.0	21.7
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## Analysis and results for the second round

The eleven items in Tables 6.5 and 6.6 above which did not reach consensus in the first round were included in the second round of Delphi in accordance with Delphi guidelines and discussed in the previous chapter. The experts ranked or rated items according to their perceived importance within the health-education process for PHC nurses. The items were ranked from (1) to (5) using a Likert scale (*strongly agree*, *agree*, *neutral*, *disagree* or *strongly disagree*). The scoring system for the statistical test required that each item should be dichotomous (Pallant, 2013). The items are scored (1) for *strongly agree* or *agree* or (0) for *neutral*, *disagree* or *strongly disagree*. As stated earlier, the level of consensus was 60% or more for the frequency descriptive analysis. Six items reached consensus in the second round; however, five items did not reach consensus in the second round and were retained in the third round.

### Items reaching consensus in the second round

Of the 11 competencies, six items about experts' knowledge, skills and attitudes reached consensus in the second round. Three of the items concerning experts' knowledge (one topic, one education style and one community presence) reached consensus and are listed in an ordered manner (Table 6.7). With 91.7% of the participants overall agreeing that there is a need for knowledge of mental health disorders, there was a clear increase in support for this item. Also, 60% selected using a range of learning and education activities as a knowledge of education style to be included within the competencies. Almost 88% of the experts selected identify health conditions and health disparities found in major demographic groups and geographic areas.

**Table 6.7: Items of PHC experts' knowledge needed for competent health education in S.A. that reached consensus in the second round**

<b>Knowledge</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly disagree</b>	<b>Median (IQR)</b>
<b>Topic</b>						
Knowledge about mental health disorders	50.0	41.7	8.3	0.0	0.0	4.5(1)
<b>Education Style</b>						
Using a range of learning and education activities and flexibility in the use of teaching strategies	23.3	36.7	38.3	1.7	0.0	4(1)
<b>Community Presence</b>						
Identify health conditions and health disparities found in major demographic groups and geographic areas	35.0	53.3	10.0	0.0	1.7	4(1)

In addition, three items about experts' skills and attitudes (two skills and one attitude) reached consensus. Table 6.8 shows the overall agreement of 95% of participants with the need for the ability to analyse the influence of family on health behaviour. It can be seen that 61.7% of participants selected the ability to use interpersonal communication skills. Regarding attitudinal competencies, 91.7% of experts agreed on the need for classroom management techniques.

**Table 6.8: Items of PHC experts' skills and attitudes needed for competent health education in S.A. that achieved consensus in the second round.**

<b>Skills &amp; attitudes</b>	<b>Strongly agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly disagree</b>	<b>Median (IQR)</b>
<b>Skills</b>						
Ability to analyse the influence of family, peers, culture, media, technology and other factors on	38.3	56.7	5.0	0.0	0.0	4(1)

individuals' health behaviour						
Ability to use interpersonal communication skills.	25.0	36.7	35.0	1.7	1.7	4(1.8)
<b>Attitudes (Accept Professional Development)</b>						
Classroom management techniques	25.0	66.7	5.0	1.7	1.7	4(0.8)

### Items not reaching consensus in the second round

Of the 11 competencies in the second round, five items about experts' knowledge, skills and attitudes (three knowledge, one skill and one attitude) did not reach consensus, as listed in Table 6.9. It is clear from the table that 46.7% of participants selected alcohol as a topic requiring increased knowledge, which is clearly short of the 60% threshold. However, the educational style items, using drama and awareness of the importance of using outside resources were selected by even fewer respondents: 21.7% and 31.71%, respectively. Within the skills section, many participants did not include the ability to adapt communications according to patients' needs as it received just 56.7%. Also, this table shows that using interactive counselling methods was not viewed as essential, at 56.7%. As a result, the above items did not reach consensus as they scored less than 60% in the descriptive frequency analysis.

**Table 6.9: Items of PHC experts' knowledge, skills and attitudes needed for competent health education in S.A. that did not reach consensus in the second round.**

Knowledge, skills & attitudes	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Median (IQR)
<b>Knowledge</b>						
<b>Topic</b>						
Knowledge of alcohol or other drugs use	25.0	21.7	26.7	26.7	0.0	3(2.8)
<b>Education Style</b>						
Use of drama and stirring up emotions in health education	10.0	11.7	31.7	41.7	5.0	3(1)



Awareness of the importance of using outside resources	10.01	21.7	45.0	20.0	3.3	3(1)
<b>Skills</b>						
Ability to adapt communications according to patients' needs	25.0	31.7	33.3	10.0	0.0	4(1.8)
<b>Attitudes (Receive Professional Development)</b>						
Using interactive counselling methods with patients and their families	20.0	36.7	30.0	13.3	0.0	4(1)

### Analysis and results for the third round

The five items that did not reach consensus in the second round were included in the third round of Delphi to establish whether experts agreed or disagreed with the items of health education competencies for PHC nurses. The scoring system for the statistical test required that each item should be dichotomous. The items originally scored (1) for *agree* or (0) for *disagree*. Two items reached consensus and three items did not reach consensus in this last stage of the Delphi.

#### Items reaching consensus in the third round

The two items that reached consensus in the third round related to skills and attitudes. Table 6.10 shows that all the participants (100%) selected the ability to adapt communications according to patient need as an essential skill for health education competencies. Further, the competency of using interactive counselling methods with the patients and their families reached consensus with 68.3% of the experts choosing it.

**Table 6.10: Items of PHC experts' skills and attitudes needed for competent health education in S.A. that reached consensus in the third round.**

Skills & attitudes	Agree	Disagree
<b>Skills</b>		
Ability to adapt communications according to patient need	100.0	0.0

<b>Attitudes (Accept Professional Development)</b>		
Using interactive counselling methods with patients and their families	68.3	31.7

### **Items not reaching consensus in the third round**

Of the five remaining competencies, three items about experts' knowledge (one topic and two styles) did not reach consensus in the third round. Table 6.11 shows that it was still seen as necessary to include knowledge of alcohol in health education competencies, as just 50% of the experts selected it. Moreover, only a minority of experts selected use of drama and stirring up emotions in health education and awareness of the importance of using outside resources in health education competencies: 26.7% and 38.3%, respectively. It is important to explore the implications of these results in detail, and so this further discussion will be undertaken in Chapter Eight.

**Table 6.11: Items of PHC experts' knowledge needed for competent health education in S.A. that did not reach consensus in the third round.**

<b>Knowledge</b>	<b>Agree</b>	<b>Disagree</b>
<b>Topic</b>		
Knowledge of alcohol or other drugs use	50.0	50.0
<b>Style</b>		
Use of drama and stirring up emotions in health education	26.7	73.3
Awareness of the importance of using outside resources	38.3	61.7

It is essential to note that there were no responses in the commentary boxes after each section for the three rounds, which means there is no qualitative analysis for this study. Summary of the results of the three rounds is in Table 6.12. The final competencies which reached the consensus threshold of 60% or more in the frequency analysis are listed below in Table 6.13.

**Table 6.12. Summary of the results of the three rounds**

	Items reaching consensus				Items not reaching consensus	Total number of items
	First round	Second round	Third round	Total		
<b>Knowledge</b>						
Topics	11	1	0	12	1	13
Education	3	1	0	4	2	6
Style						
Community	5	1	0	6	0	6
Presence	<b>19</b>	<b>3</b>	<b>0</b>	<b>22</b>	<b>3</b>	<b>25</b>
<b>Subtotal</b>						
<b>Skills</b>	7	2	1	10	0	<b>10</b>
<b>Attitudes</b>						
Professional development	4	1	0	5	0	5
Professional preparation	7	0	1	8	0	8
<b>Subtotal</b>	<b>11</b>	<b>1</b>	<b>1</b>	<b>13</b>	<b>0</b>	<b>13</b>
<b>Total</b>	<b>37</b>	<b>6</b>	<b>2</b>	<b>45</b>	<b>3</b>	<b>48</b>

**Table 6.13. Competencies which reached consensus after all the rounds**

Competencies for health education which reached consensus among the expert panel
<b>Knowledge</b>
<b>A. Topics to increase knowledge</b>
1. Knowledge about asthma and its prevention, management of risks and side-effects.
2. Knowledge about diabetes.
3. Knowledge about mental health disorders.
4. Knowledge about epilepsy/seizures, management of medication.

5. Food allergies – e.g. G6PD.
6. Counsel patients by taking preventive measures.
7. Knowledge about epidemics of infectious diseases, and their prevention using available vaccines.
8. Injury prevention by recognising safety precautions and using first aid.
9. Nutrition and appropriate dietary behaviour.
10. Physical activity and fitness regime to maintain a healthy lifestyle.
11. Parameters of women's health, including family planning, breastfeeding etc.
12. Smoking prevention.

### **B. Knowledge about education style**

13. Using a range of learning and education activities and flexibility in the use of teaching strategies to enhance effective health education, always accepting cultural beliefs.
14. Application of such thinking strategies as mind-mapping in health education.
15. Using self-skills in teaching to develop forward thinking in patients.
16. Using posters and modern technology to attract the attention of patients.

### **C. Community presence**

17. Identify health conditions and health disparities found in major demographic groups and geographic areas.
18. Identify existing health resources and access to public services available to the community.
19. Establish standards for conducting needs assessment and working hard to achieve these standards.
20. Determine the geographical boundaries of service areas, in particular rural areas where low health standards are prevalent.
21. Be aware of health beliefs and views regarding the influence of Islam on health.
22. Knowing the community as a whole, establishing and maintaining links with it.

### **Skills**

23. The ability to analyse the influence of family, peers, culture, media, technology and other factors on individuals' health behaviour – e.g. advertisements and offers in the market.
24. The ability to access valid information, products and services to enhance health – e.g. usage of pamphlets and posters, the Internet and other media facilities.
25. The ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
26. The ability to adapt communications according to patients' needs.

27. Usage of decision-making skills to enhance health (management of health-education sessions by preplanning, implementation and evaluation/ can recognise and respond to patients' differences).
28. Using goal-setting skills to enhance health (can set realistic achievable goals with patients/families).
29. Active listening to feedback in health-education sessions from patients.
30. Practising health-enhancing behaviours to avoid or reduce risks by discussing with patients some examples from life, such as doing physical exercise to maintain a healthy lifestyle.
31. Supporting personal, family and community health – e.g. contributing to health campaigns.
32. Using communication skills, talking to patients and families to convey information effectively.

#### **A. Accept professional development**

33. Educate patients from various cultural backgrounds, without discrimination, as this may change their health behaviours. Demonstrate cultural awareness and sensitivity to individual needs.
34. Using interactive counselling methods with patients and their families in order to cater for the needs of patients (e.g. role play or co-operative group activities).
35. Encouraging family or community involvement, which may introduce new ideas for the provision of healthcare.
36. Educate patients about skills which will improve their health behaviour.
37. Classroom management techniques (e.g. social-skills training and environmental modification).
38. Assessing or evaluating nurses in health education.

#### **B. Professional preparation**

39. Deal in an unbiased manner with each patient's problems, keeping in mind the individual's needs.
40. Improved interaction with other healthcare providers in the PHC centre (doctor, nutritionist, & lab. technician).
41. Has a positive attitude towards the role of health education in the community as a whole, understands that prevention is better than cure.
42. Empowerment, which means the ability to educate patients by preparing and developing their teaching/ educational skills.
43. Respect other opinions and viewpoints as the community includes people with multicultural backgrounds.

- |   |
|---|
| <p>44. Work according to ethical values and principles (adhere to the policies and regulations of the PHC centre which is the place of work).</p> <p>45. Willingness to engage in staff development by attending courses and conferences related to health education.</p> |
|---|

## **Conclusion**

This chapter has outlined the results of the three rounds of the Delphi technique. At the end of the third and final Delphi round, 45 competencies had reached consensus and three had not. All of the competencies that did not reach consensus are related to the knowledge section; knowledge of alcohol or other drugs use, use of drama and stirring up emotions in health education, and awareness of the importance of using outside resources. This was a meaningful process for developing culturally and contextually relevant professional nursing roles and related competencies. However, there was still a need to understand the applicability of the competencies in practice, and therefore a decision was made to facilitate a workshop for PHC nurses, their managers, and service users. The next chapter will explain the workshop process and its outcomes.

## **Chapter Seven: The Workshop**

### **Introduction**

As discussed in Chapter five, Delphi techniques can be combined with other research activities such as presentations or workshops. A potential barrier that has been identified is the expense; preparations for this procedure are costly and there are no estimates of how the costs differ between countries (Cuhls, 2003). In this research, an interactive workshop was conducted following the Delphi results, and the Saudi government funded the process of data collection.

This chapter will present the process for the interactive workshop conducted after the Delphi technique data-collection procedures. The workshop was undertaken with a combined group of PHC nurses, nurse managers, and service users. The chapter begins with an overview of the workshop and rationale for the involvement of service users in the activities. This will be followed by an exploration of the objectives and expected outcomes of the workshop. The programme for the workshop and the process of the workshop will then be explained. The group participants in the workshop will be described along with their demographic data and the outcomes. Lastly, the main outcomes of the workshop will be presented from groups of PHC nurses, nurses' managers in PHC, and service users.

### **Workshop overview and purpose**

The interactive workshop was the activity that followed the Delphi results for the research study. It was developed to meet the final research objective, which was to engage service users, nurse managers and PHC nurses in a workshop that would present the competencies required, develop an action plan and make recommendations for piloting and evaluating during the post-doctoral period. The workshop involved groups of PHC nurses, nurse managers in PHCCs, and service users, patients or clients from within the PHC centre sample. In total, three PHC nurses, two nurse managers in the PHC centres and five service users came together to work and communicate as a group.

A workshop is defined as “a meeting at which a group of people engage in intensive discussion and activity on a particular subject or project” (OED, 2015, p.884). In the context of the research the workshop was designed to elicit participant views about the PHC environment for health education, for action planning and next steps, in terms of piloting and evaluating the health education competencies with nurses in the PHC setting. The purpose of

the workshop was to present the Delphi findings to the participants in order to obtain their ideas about practical application of the health education competencies in the PHC setting, the best means for introduction of the competencies, such as a short course, study day or post-registration course.

## **Service users involvement in the workshop**

Discussion has taken place concerning the role of service user's involvement in research and how to ensure that there are processes in place for their protection. Williamson and Coad (2007) have explored the Royal College of Nursing (RCN) guidance for service user involvement in research by nurses. This guidance explored the meaning of 'service user' a term used to include members of the public, patients, and carers. It can incorporate past, present, and potential users of health and social care services. Further, it is clear in this guidance that service users can be involved in any step of the research process, such as during data collection or publication of the results, through oral presentation and written research reports. The nature of the involvement depends on the purpose of the research, resources, and skills available. Rewarding service users is a vital element in their involvement; however, payment needs to be considered before involvement takes place. The researcher has to find the suitable time and place for the service users. Best practice includes use of signed consent to participate as part of ethical considerations, supported by discussion with service users regarding the scope of the work to be undertaken, accompanied by a written information sheet. Williamson and Coad (2007) advised setting criteria for the involvement of the service user, so that participants, including the wider public, can learn about the topic to meet the needs of those using PHCCs. This allows for planning for service user involvement, which can inform the research process, and positively influence the research outcomes.

The National Institute for Health and Care Excellence (NICE) (2013) in the UK aimed to identify issues that are relevant to patients, service users, and the public, reflect their views, and meet their health and social care needs. NICE states that involving patients, service users, and the public adds value to discussion of the issues at hand. NICE's approach to patient, service users, and public involvement is based on two key principles:



“1. That lay people and organisations representing their interests have opportunities to contribute in developing NICE guidance, advice, and quality standards, and support their implementation.

2. That according to this contribution, guidance and other products have a greater attention and importance for people that are influenced by the recommendations of NICE” (NICE, 2013, p.2).

Minogue and Girdlestone (2010) emphasised that service-users involvement is essential if research is to support the development of health services that clearly reflect the needs of service users and impact positively on service quality. Fudge et al. (2008) stressed that service-user involvement in a healthcare programme should be initiated and led by professionals. Professionals can determine the areas of service improvement that service users can contribute to. A wide range of activities can be considered to be “user involvement”, from patient satisfaction surveys to service users delivering peer support.

In the UK, it is government policy to encourage healthcare practitioners to work in partnership with patients and clients (service users) as an important constituent of quality in healthcare delivery. Furthermore, it is important to involve service users in educational preparation, specifically for a nursing curriculum. Involvement of service users in the curriculum has been encouraged and supported in England since the early 1990s (Le Var, 2002). For example, at the University of York, a mental health user-led group is involved with pre- and post-registration mental health nursing programmes, offering consultancy for curriculum development as well as teaching. A link person from the university takes new ideas to the group and obtains feedback. Thus users do not have to attend all development meetings. A user always teaches the first session in a module/unit. The university facilitates this process through offering support for user preparation and financial stability in the form of annual financial contracts.

As the above discussion highlights, there are seen to be a number of benefits to service-user involvement in activities which impact on their health status. This is an innovation for nursing research in S. A. where service-users are viewed much more as recipients of care, rather than co-facilitators.

## **Objectives of the workshop**

1. To present the Delphi findings that identified the competencies required of PHC nurses regarding health education.
2. To obtain ideas and feedback about the practicalities of the competencies, and how to test them further within PHC practice.
3. To share thoughts about how to introduce these competencies to participants in education, e.g. through Continuing Professional Development (CPD), the nursing curriculum and post-registration courses.
4. To obtain ideas and feedback from participants and consider new recommendations and comments from the participants.

## **Expected outcomes**

1. Improved communication skills for participants who come from different cultural backgrounds, including PHC nurses and service users.
2. Practical development of strategies to support application of the research findings of the study, and design a pilot-testing strategy for implementation in the post-doctoral period.
3. Consideration of any new challenges and comments that will improve the quality of primary healthcare and the nurse's role as a health educator.

## **Workshop Programme**

The researcher made contact with the General Directorate of Health Affairs in Dammam, in order to meet PHC nurses and nurses' managers in PHCC in Al-Dammam to participate in the workshop. A package of information sheet and consent form (Appendix 9) was provided to the PHC nurses and nurses' managers to know about the workshop and its purpose. The consent form was signed by them. After that, the researcher ask the nurse managers to contact with service users through the PHCC in Dammam in order to encourage them to participate in the workshop. The information sheet and consent form was also signed by them (Appendix 10).

Before conducting workshops or such activity that involves service users, it was essential for the researcher to consider how service-user participants would be selected, the number of

topics to be discussed and to undertake careful planning and organisation (Le Var, 2002). The latter meant drawing on the relevant literature to ensure that appropriate strategies were employed. For example, it has been noted that using reflection techniques during workshops maximises the benefits of service user involvement (Harding, 1997). Also, communication during the workshop with service users should be open with use of straightforward language in order to get understanding from the participants; service users. The researcher facilitating the workshop has to think about the time and length of the workshop; as they are vital to develop relationships with service users (Le Var, 2002). It is important to maintain confidence during the workshop as supported by Wood and Wilson-Barnett (1999). Confidentiality was maintained during the workshop, as it has been explained by the researcher that the work of the PHC nurses will not affect and care provided to service users will not affect as well. Ultimately, it was decided to organise events as follows:

- The workshop was held on 15 April 2015 at the General Directorate of Health Affairs in Al-Dammam.
- The participants were separated into five groups, each group having one nurse and one service user. The service users were educated and willing to participate in the workshop. The PHC nurses were two managers and three staff. All participants were female, as male participation would have been difficult due to socio-cultural parameters.

## **The workshop process**

The recommendations of Fudge et al. (2008) were adopted, for example, recommendations that the workshop had to start and be guided by professionals. The workshop started with introductions, welcoming the participants and thanking them for taking part in this activity (workshop). After that, there was an explanation of the study and the aim of the workshop in order to provide a general idea about the importance of the workshop. Also, there was an explanation of how much their involvement was beneficial for the present study and how the workshop would help generate ideas, and thoughts for the practicalities of the competencies and their further development. Instructions to the participants explained that each section of (knowledge, skills and attitudes), which are the same sections in the Delphi questionnaire would be discussed for 5–10 minutes within the group, and the group would write their comments for each section in a form (Appendix 11). They had been asked if these items were

important and how they could be introduced to the PHC nurses in practice. These were the outcomes of the workshop, which are detailed below. The outcomes were discussed within the groups, guided by the researcher and a presenter from each group. At the end, the workshop group discussed the results and which items did not reach a consensus in the Delphi questionnaire. The participants discussed the reasons that could be behind the items which did not reach consensus in the Delphi study. Their responses are explained below. Discussion and communication was undertaken in Arabic, using straightforward language as discussed by Le Var (2002). The researcher and assistant wrote notes during the proceedings, as the participants refused the use of video or tape recorder. Their refusal may have been due to social/family issues. The discussion time within the group and with others was maintained as there was no group who discussed issues more than other as well as insured give the opportunity to each participant to talk and ask questions if they prefer.

## **Workshop Groups**

### **Group one**

	PHC Nurse #1	Service User #1
Age	34 years old	45 years old
Marital Status	Married	Married
Level of Education	Bachelor's degree	Bachelor's degree (teacher)
Years of Experience	12	25

### **Outcome from group one**

Starting with the knowledge section (Appendix 11), which contains the same items as the Delphi questionnaire, workshop participants strongly agreed with and emphasised increasing the knowledge of PHC nurses on topics including asthma, mental health disorders and food allergies, e.g. G6PD, in order to protect the health of people in the community. They agreed on various points about increasing knowledge and the education style, including the use of drama, posters and mind-mapping strategies to deliver health education messages in a simple way to all levels of the community. They also agreed on points related to knowledge about the importance of a community presence in the health-education process, e.g. identify the health problems in major areas, be aware of health beliefs and link them to the ways of Islam

to deal with diseases. However, they did not agree on using outside resources to achieve the objectives of a health-education session. They explained this disagreement as relating to the unique environment and culture of S.A. and ways of dealing with health problems in other countries was not considered appropriate for adoption in S.A.

Turning to the skills section, participants in Group one agreed about the need to provide competent health education in order to confirm that information is delivered to clients in ways that are easy to understand and follow. Lastly, regarding attitudes, they agreed on points about behaviour, for example, that PHC nurses need to provide health education effectively, such as avoiding discrimination, assess nurses frequently, improve the interaction with other healthcare workers to exchange ideas and experiences as well as increase the knowledge of people. This means that participants supported all health education competencies regarding the attitudes of PHC nurses.

### **Group two**

	PHC Nurse #2	Service User #2
Age	30 years	48 years
Marital Status	Single	Married
Level of Education	Bachelor's degree	Bachelor's degree (teacher)
Years of Experience	2	21

### **Outcome from group two**

Starting with knowledge, Group two agreed with and emphasised increasing the knowledge of PHC nurses on topics including asthma, alcohol and drug use, and diabetes to prevent complications. Moreover, they agreed on various points about increasing knowledge and the education style including the use of drama, posters and flexibility in education to increase the knowledge of people. They also agreed on points related to knowledge about the importance of a community presence in the health-education process, e.g. identify the health problems in major areas, be aware of health beliefs and identify existing health resources to decrease health problems in the community and be aware of patients' rights.

Regarding skills, participants from Group two agreed about the need to provide competent health education in order to increase the confidence of people in staff in the PHC centre and facilitate the delivery of health-education messages. Further, they suggested developing education courses that will increase the skills of PHC nurses regarding health education.

Turning to attitudes, they agreed on points about behaviour, that PHC nurses need to provide health education effectively, such as avoid discriminating against people, involve family in the process of health education, respect others' opinions and engage staff in workshops and courses for staff development that will positively influence the process of health education.

### **Group three**

	PHC Nurse #3	Service User #3
Age	29 years	42 years
Marital Status	Married	Married
Level of Education	Bachelor's degree	Bachelor's degree (teacher)
Years of Experience	2	15

### **Outcome from group three**

As with the first two groups, Group three strongly agreed with and emphasised increasing the knowledge of PHC nurses on topics including asthma, alcohol and drug use, G6PD and diabetes, as these health problems are common in S.A. Also, they agreed on various points about increasing knowledge and the education style, including the use of drama, mind-mapping strategies and outside resources to facilitate new ways of delivering health-education messages. They agreed on points related to knowledge about the importance of a community presence in the health-education process, e.g. identify the health problems in major areas, be aware of health beliefs and identify existing health resources to provide people with the services they need.

On skills, they agreed about the need to provide competent health education in order to achieve the goals of a health-education session and increase the knowledge of people in the community. Lastly, regarding attitudes, they agreed on points about behaviour, for example, that PHC nurses need to provide health education effectively, and avoid discriminating against people, involve family in the process of health education, respect others' opinions, adhere to ethical values and engage staff in workshops and courses for staff development in order to enhance the knowledge of people about their health.

#### **Group four**

	PHC Nurse #4	Service User #4
Age	27 years	62 years
Marital Status	Single	Married
Level of Education	Bachelor's degree	Diploma (teacher)
Years of Experience	3	5

#### **Outcome from group four**

Beginning with knowledge, they strongly agreed with and emphasised increasing the knowledge of PHC nurses on topics including asthma, alcohol and drug use, smoking, mental health, G6PD, infectious diseases and diabetes so as to decrease the incidence of complications and provide people with information to deal with those health problems. Additionally, they agreed on various points about increasing knowledge and the education style, including the use of drama, posters and self-skills when teaching to encourage people to be more aware about health promotion and disease prevention. Also, they agreed on using outside resources as this may be helpful in the Saudi context, for example, exchange ideas and experience of the other Gulf countries regarding the practice of health education. This was different than group one that disagree on using outside resources as explained above. Moreover, They agreed on points related to knowledge about the importance of a community presence in the health-education process, e.g. identify the health problems in major areas, be aware of health beliefs and establish standards for needs assessments to recognise the weak points in the process of health education.

When it comes to skills, they agreed with the need to provide competent health education in order to increase the health awareness of the community. Regarding attitudes, they agreed on points about behaviour, i.e. that PHC nurses need to provide health education effectively, e.g. avoid discriminating against people, involve family in the process of health education, respect others' opinions and prepare well for health education sessions, which means that nurses should adopt an effective scientific style in the process of health education.

### Group five

	PHC Nurse #5	Service User #5
Age	42 years	35 years
Marital Status	Married	Married
Level of Education	Master's degree	Bachelor's degree
Years of Experience	21	Not working (housewife)

### Outcome from group five

Finally, Group five strongly agreed with and emphasised increasing the knowledge of PHC nurses on topics including asthma, alcohol and drug use, diabetes, epilepsy, safety precautions and G6PD to decrease the spread of these health problems within the community. In addition, they agreed on various points about increasing knowledge and the education style, including the use of drama and outside resources that are relevant to the Saudi context. They also suggested the use of technology to deliver health-education messages, such as social media (WhatsApp & Twitter). They agreed on points related to knowledge about the importance of a community presence in the health-education process, e.g. identify the health problems in major areas, identify existing health resources and be familiar with the community as a whole to deliver knowledge regarding their health.

Concerning skills, they agreed about the need to provide competent health education in order to increase the health awareness of the community. Moreover, they suggested the development of education courses, lectures and workshops in order to increase the skills of PHC nurses so they can deliver health education in an acceptable and effective way. On attitude, they agreed on points about behaviour, i.e. that PHC nurses need to provide health education effectively, e.g. avoid discriminating against people, assess nurses frequently, enrol nurses on workshops and courses to enhance their performance in health education.



## **Main outcomes from the group discussions**

The PHC nurses emphasized the need for more training/ education courses that would improve their performance, including health education. This was also a recommendation that emerged from the academic literature, as explained in Chapter Three. In addition, the PHC nurses concurred with the competency within the Delphi questionnaire, (willingness to engage in staff development by attending courses, and conferences related to health education). Therefore, there is a need to introduce courses for PHC nurses in order to improve their practice of health education.

From the service users' perspective, they wanted to introduce technology into the delivery of health education, such as social media networks (Twitter & WhatsApp). The service users pointed out that effective messages could be delivered through social media and how they could change health behaviours. Also, they reported that posters were also considered efficient and easy to understand. For example, people who had difficulty reading could follow the pictures in posters or pamphlets. This way facilitates the delivery of health education messages to the community, as educational level is variant among people visited PHCCs. Also, this result supported the competency item in the Delphi regarding knowledge of education style, which concern with using posters and modern technology in order to facilitate the health education process to the whole people in the community.

The objectives of the workshop were achieved, as participants shared their ideas regarding the practicalities of health education competencies for PHC nurse (Delphi result). Further, the participants demonstrated appropriate communication and respecting to others during discussion and interaction with others. There was no difficulties noted during the workshop process from both groups (PHC nurses & service users). Furthermore, it is clear that participants agreed to a great number of health education competencies, due to their interaction and dialogue during the workshop. Therefore, the workshop was efficient to this study.

## **Conclusion**

In this chapter, an interactive workshop has been presented and its processes explained. The workshop was important following use of the Delphi technique in order to present data to service users, PHC nurses and managers, and to validate and discuss findings with them as research participants. The workshop was also important for action planning and recommendations related to the health education competencies for PHC nurses. The combination of PHC nurses and service users was efficient and this was a new activity in a PHC setting in S.A. However, it was essential to keep in mind that the outcomes of the workshop did not affect the results of the Delphi questionnaire. They will be discussed along with the results in the next chapter.

## **Chapter Eight: Discussion of the Results**

### **Introduction**

Having presented the results of the Delphi questionnaire in Chapter Six and the workshop in Chapter Seven, this chapter will discuss the results drawing upon the policy analysis and literature review (Chapters Two and Three). This study has aimed to identify the competencies needed for PHC nurses to undertake their role regarding health education. Competency identification is required due to changing health trends in the country, as health education plays a major role in improving health outcomes for the community. In this chapter, the results from the three rounds of Delphi will be explained, as well as the items that reached consensus and those which did not in each round. Also, the discussion will include explanation of the workshop outcomes.

According to Meyer and O'Brien-Pallas (2010), PHC nurses work in a complex environment, have to be aware of the multidimensional factors of health and should be able to engage in health-promotion activities, which include giving health education to patients. For this reason, it was found to be a worthwhile step to try to reach a consensus among PHC nurses in S.A. regarding the competencies required for health education. Another reason has been stated within the policy review (Chapter Two), which identified the importance of health education policies within the PHC setting and its provision by PHC nurses. This is a critical point. If nurses do not have input or ownership of health education competencies, and if the competencies are not deemed to be applicable by nurses in practice, then it will be difficult to enhance health education as stated by Irvine (2007).

### **First round discussion**

As outlined earlier in this study, the first round of the Delphi technique began with a questionnaire that was given to a panel of selected experts, to choose which items should be included within health-education competencies for PHC nurses in S.A. The questionnaire was drawn up from previous studies (College of Nurses of Ontario, 2014; Osborne et al., 2007; Witt & de Almeida, 2008; Zaghloul & AlSokair, 2008) concerning the nursing competencies required within different settings. The questionnaire was applied in a way that was suitable and adapted to PHC and Saudi culture. The participants selected from *Yes*, *No* or *Uncertain*. As there is no ideal sample size for Delphi techniques, there was no

requirement for a set or pre-determined number of participants. The participants' expertise was important when developing a sample. For this reason, 60 participants was considered to be a good number, bearing in mind that they were nurses working in PHC settings. The first-round questionnaire (Appendix 4) consisted of three sections. The first section was *knowledge*, which included 13 items for topics, 6 items for education style, 6 items for community presence. The second section was *skills*, which included 10 items. The final section was *attitudes*, which included 6 items for accepting professional development, 7 items for professional preparation. The following section will explain the items that reached consensus and the items that did not reach consensus amongst the participants.

## **Items reaching consensus**

### **Knowledge**

Thirty-seven competencies reached consensus in the first round, as illustrated in chapter six, and these items were removed from the Delphi questionnaire for the second round. Out of the 37 competencies, 19 were items about experts' knowledge (11 topics, 3 regarding education style & 5 regarding community presence). The highest percentage for a topic requiring further knowledge was for diabetes (98.3%). This was possibly related to the high rate of diabetes in S.A. It was documented in 2013 that there were 3.6 million cases of diabetes in S.A. (IDF, 2014). Further, the IDF (2014) stated that the health of diabetes sufferers could be improved through on-going review and prevention of complications, with behavioural change via health education. The importance of diabetes within health education was also identified by Torres et al. (2010) as they found that there was a clear deficiency regarding preparation and knowledge of diabetes within the PHC setting. Moreover, Al-Khalidi (2008) concluded that patients with diabetes did not realise the negative effects of diabetes as regards foot complications, and knowledge about healthy foot care within the PHC setting. This supports the result to increase knowledge of PHC nurses regarding diabetes. Cooper et al. (2003) also ascertained the need to increase PHC nurses' knowledge regarding diabetes. These studies supported the need to include knowledge of diabetes and related complications within the health education competencies of PHC nurses in S.A.

Knowledge about physical activity reached consensus, with the same percentage as for diabetes (98.3%). The importance of PHC nurses' knowledge about physical activity in order to improve physical and mental health has been identified in other countries (Douglas et al., 2006). This study highlighted that physical activity knowledge was crucial and had to be

increased and included within the competencies for PHC nurses regarding health education. Bronchial asthma was a topic on which participants agreed they needed to increase their knowledge. Al Frayh et al. (2001) found that more than two million people in S.A. complained of bronchial asthma and 13% of Saudi children aged between 6 and 10 years were diagnosed with it.

Considerable emphasis was placed on topics related to women's health, with a percentage of 90% consensus. For example, breastfeeding health education was considered inadequate in S.A. and improvements were required (Al-Amoud, 2003). In addition, PHC nurses were seen as a poor source of health information for pregnant women, as demonstrated by Rasheed & Al-Sowielem (2003). It is important to increase the knowledge of PHC nurses about breast cancer, as it is one of the leading causes of death in S.A. The majority of PHC nurses showed fair general knowledge regarding breast cancer and screening tests (Yousuf et al., 2012). The participants agreed that knowledge about smoking prevention has to be included within the competencies. According to Mahmood et al. (2015), the main cause of heart disease in S.A. was lifestyle, including smoking, diet and physical activity, and this can be improved through health education. Additionally, Kerr et al. (2007) explored the need to increase the knowledge of PHC nurses regarding quitting smoking. The consensus on these topics as outcomes from the workshop provided further support for this result.

In addition, three items related to increased knowledge about education styles reached consensus in the first round. The participants agreed that using posters and modern technology was important in the health education process within the PHC setting because these are easy to access and make it easy to deliver information to participants. These findings are consistent with the literature. For example, Douglas et al. (2006) identified that a lack of resources, such as posters, can be a barrier to the health-education process in the PHC setting. Moreover, using self-skills in teaching to develop forward thinking in patients, such as linking health issues to real life, found approval from the participants. It is important to note that education and training courses can increase knowledge about education style for PHC nurses (Abdulhadi et al., 2013; Almalki et al., 2011; Bergh et al., 2012).

Furthermore, five items related to increased knowledge about a community presence reached consensus in the first round. The PHC nurses agreed that to "know the community as a whole and establish and maintain links with it" was an essential ability for healthcare. This result was confirmed in other contexts; in Canada, this competency was one of those listed for community-health nurses, as explained by Canadian Nurses Association (CNA, 2004). Also,

the participants agreed about awareness of health beliefs, as Islam encourages breastfeeding and this maintains the health of both mother and child. As a result, PHC nurses were required to increase their knowledge of this issue (Al-Amoud, 2003). There was some discussion and consideration about identifying existing health resources and the access to public services available to the community. This was found to be a challenge for PHC nurses and was considered to be a barrier to the health-education process (Abdulhadi et al., 2013). Further, the need to “determine the geographical boundaries of service areas, in particular rural areas where low health is prevalent” was selected by the participants. It is clear that the shift from rural to urban populations was a challenge as identified by the Saudi MOH (2009), even though this is part of wider trends which have been taking place over the last four decades (Littlewood & Yousuf, 2000).

## **Skills**

Seven competencies concerning experts’ skills reached consensus in the first round. Clear emphasis was placed on “practising health-enhancing behaviours to avoid or reduce risks, by discussing with patients some examples from life, e.g. using physical exercise to maintain a healthy lifestyle”. This item obtained a consensus of 93.3% among the participants. However, according to Gandeh and Milaat (1999), PHC nurses highly rated the practice of health education about hypertension in pregnancy. This means that there is still a need to increase this competency, which was related to the enhancement of healthy behaviours for other health problems, in particular those considered common in S.A. for example, diabetes, bronchial asthma, and smoking. Three competencies were considered important, with the same level of consensus: “supporting personal, family and community health”, “using communication skills, talking to patients and families to convey information effectively” and “actively listening to feedback in health education-sessions from patients”. In order to achieve these three competencies, it was considered important to highlight the barriers in communication with patients as explained by Abdulhadi et al. (2007) and Abdulhadi et al. (2013). These barriers included an unfriendly welcome; interrupted consultations; lack of privacy; poor attention and eye contact; lack of patient encouragement to ask questions on the part of health care providers. Barriers for patients included an inability to participate in medical discussions, or express concerns. In addition, Torres et al. (2010) confirmed that lack of time, lack of motivation, a large number of patients and a heavy workload hindered the communication process between PHC nurses and patients. Consequently, PHC nurses need to listen to

patients in order to acknowledge their needs and overcome obstacles in the communication process. There was agreement from the literature related to the competency that aimed to increase PHC nurses' skills regarding health education. As explained by Gilmour et al. (2014), PHC nurses required training to improve their self-management skills for cardiac patients, including appropriate nutrition, taking medications, awareness of the symptoms of heart failure. Moreover, using other skills in health education was considered important, for example,

- goal-setting skills to enhance health by setting achievable goals with patients/families;
- decision-making skills when preparing health-education sessions;
- ability to access valid information and services (pamphlets/posters).

These skills could be accomplished with training and education courses for PHC nurses (Douglas et al., 2006; Melville et al., 2005; Torres et al., 2010; Yousuf et al., 2012). Further, support for these competencies from the workshop for participants confirmed that these items are important in health education. Workshop participants suggested training courses and continuing education programmes in order to improve the skills of PHC nurses regarding health education. The training courses and supported education programmes could relate to health education skills and how to provide an effective education session for clients within the PHC setting. Further, these programmes could include the key public health issues in S.A., for example, diabetes, hypertension, and healthy life styles.

## **Attitudes**

Eleven items about experts' attitudes (4 professional development, 7 professional preparation) reached consensus in the first round. Almalki et al., (2011) identified that lack of professional development is one of the factors influencing the quality of working life for PHC nurses in S.A. The participants agreed that "educate patients about skills which will improve their health behaviour" should be a competency for health education within a PHC setting. This can be achieved through courses for professional development. This result was supported by several studies that confirmed continuing education for PHC nurses had a positive influence on the health-education process which would then impact on health promotion and disease prevention within the community (Al-Khaldi, 2008; Alnaif & Alghanim, 2009; Rasheed & Al-Sowielem, 2003; Yousuf et al., 2012). Moreover, the results confirmed the attitude that

health education must prevent discrimination against patients, while still being aware of cultural factors and individual needs. For example, Al-Amoud (2003) identified factors that affected breastfeeding decisions, including Quranic instruction, social habits, returning to work, doctor's advice and spacing between children, which should be pointed out in health education within the PHC setting. Culture is a necessary consideration for PHC nurses, especially in S.A. where there are nine million individuals from overseas as S.A. is a multicultural population. The competency of "assessing or evaluating nurses in health education" was considered essential by most of the participants. This was supported by the finding of Tzeng (2004) who considered the assessment of nursing competence by examining the quality of nursing care, including health education and ensuring the safety of others.

All the items relating to attitudes towards professional preparation reached consensus in the first round, which suggested that PHC nurses should have a positive attitude towards the role of health education in the community as a whole. Again, this finding was supported by the extant literature. For example, Aalto et al. (2001) in Finland found that PHC nurses had a positive attitude towards discussing alcohol with patients in order to promote changes to help heavy drinkers reduce their drinking. Considerable literature confirms this result, which related to engaging in staff development by attending courses and conferences about health education (Baxter et al., 2013; Mersal & Keshk, 2012; Perry et al., 2008; Torres et al., 2010). This competency reached a 98.3% level of consensus, which indicated the importance of continuing education for PHC nurses.

It was one of the objectives for the workshop to consider how these competencies would be introduced to nurses. As explained earlier, the Saudi community includes people with multicultural backgrounds, whose opinions and views should be respected. In particular, the health education process aims to change behaviours to improve the health of the people. Also, the participants agreed that improved interaction with other healthcare providers and working as a team were important competencies for health education within a PHC setting. Health education can be considered a responsibility for all health professionals (Abdulhadi et al., 2013; Douglas et al., 2006; Torres et al., 2010). Considerable emphasis was placed on "working according to ethical values and principles"; this result was evident among the PHC nurses as the level of agreement in this area was especially high. Tones and Tilford (2001) state that "health status" has to be a concern for policymakers who develop policies and regulations; they should focus on social improvement to guide the health of individuals. Consequently, health professionals have to follow the policies and regulations of the place



where they work when delivering health education to patients. There was emphasis in the results about “empowerment, which means the ability to educate patients by preparing and developing their teaching/ educational skills”. This competency was viewed as an important topic within training courses by PHC nurses keen on health education. It was clear that continuing education for PHC nurses had a positive influence on the health of the population and could improve the quality of care given by PHC nurses (Al-Amoud, 2003; Almalki et al., 2011; Alnaif & Alghanim, 2009; Al-Omar & Bin Saeed, 1998; Douglas et al. 2006; Yousuf et al., 2012). For the participants, to “deal in an unbiased manner with each patient’s problems, while bearing in mind the individual’s need” was identified as being important. This was considered a general competency, meaning it should be performed by health professionals as well as PHC nurses. As discussed earlier, nurses must avoid discriminating against patients who visit PHC centres.

From the above discussion, it was clear that all items that reached consensus in the first round were found in the literature as important competencies for PHC nurses regarding health education. Overall, these results were aligned with global public health issues, such as, diabetes, and cardiovascular diseases. This agreement was anticipated due to the high prevalence of diabetes within S.A. Furthermore, the consensus among the participants in the first round of Delphi indicated their interest in the study as they considered health education competencies as essential issues to be highlighted. Another example of the agreement was “using effective communication skills”, and this was also identified in the literature within different contexts. These results appear to indicate the effectiveness of adopting Delphi technique as a method to elicit health education competencies.

## **Items that did not reach consensus**

### **Knowledge**

Eleven items did not reach consensus in the first round, and these items were retained for the second round. Six items related to experts’ knowledge (2 topics, 3 education style and 1 community presence). The participants did not agree on the topic of “knowledge of alcohol or other drugs use and associated risks”. This result from the Delphi study was consistent with a controversy in the international literature, whether PHC nurses should increase their knowledge about alcohol consumption. For example, in Finland, Aalto et al. (2001)

conducted a study to identify barriers to healthcare providers by carrying out competent but brief interventions to help heavy drinkers to reduce their drinking. In Saudi Arabia where Islam shapes life, alcohol is banned according to the Holy Quran. However, people can easily bring alcohol into the country from neighbouring countries, and some people can prepare alcohol inside S.A., though there are punishments for people who break the law forbidding the preparation and drinking of alcohol in S.A. (Hawwari, 2001). As a result of this law, people are reluctant to come forward with alcohol related problems. So, there is minimal data about the rates of alcohol consumption or other drug use in S.A. With regard to addiction treatments for patients (Koenig et al., 2014). Al-Sharqi et al. (2012) conducted a study on 736 males who complained of substance abuse in Riyadh, Al-Dammam and Jeddah, and found that 20 per cent of participants had been drinking alcohol for six months or longer. In addition, other drug addictions were found amongst study participants. For example the results showed that, 39.5 per cent of participants were addicted to amphetamines, 17.4 per cent were addicted to heroin, and 16.3 per cent were heavy cannabis users. Consequently, it had been essential to include this topic about “drinking alcohol and other drug use” within the health education competencies for PHC nurses, and it was surprising that participants did not select this competency.

Further, the participants’ view of “knowledge of mental health disorders, e.g. depression and schizophrenia, their influence on patients and their families” was not seen as essential within the health education competencies for PHC nurses. Koenig et al. (2014) identified the private mental health services in existence in S.A. in addition to government services provided to patients having psychotherapy, or using addiction services, and rehabilitation services for children, adolescents and adults. Due to the stigma of mental illness in S.A., and the ease of access to private mental health services without a referral, people who complain of mental health issues may prefer to consult private clinics. This may also explain the minimal information and data regarding mental disorders in S.A. This situation may have contributed to participants’ views related to mental health and well being as a competency for PHC nurses and health education in the first round. Although people in S.A. with health problems first see their GP at a PHC centre, following WHO recommendations, it is valid to increase knowledge of PHC staff regarding mental disorders. Also, PHC centres in S.A. provide free curative, preventive, promotive and rehabilitation services to the community (Koenig et al., 2014). However, according to Qureshi et al. (2009), GPs can refer patients with mental

disorders to psychiatrists in a general hospital (secondary level) if they feel it would benefit the patient, and to speciality psychiatric hospitals (tertiary level) when necessary.

As for education style, the participants did not select “using drama and stirring up emotions in health education”, although this competency can be used in order to simplify the purpose of health-education sessions via role-play and simulation. Several research studies supported the use of role play in education (Ardriyati, 2009; Barney & Shea, 2007; Blatner, 2009). The major advantages of role-play were explained by Barney and Shea (2007), who translated a level of understanding into actual behavioural practice and demonstrated interviewing skills. However, if it is not undertaken properly the results from role play could be disappointing. PHC nurses may have thought this education style was an old, boring method, which needed time for conveying information. In addition the competency, “awareness of the importance of using outside resources, such as comparing health issues in different places, other than Saudi Arabia” was not seen as essential by the participants. This finding was challenging, as PHC nurses in S.A. have the potential to exchange their ideas and experiences about health education with other health systems in different countries, especially in countries where Islam is the religion and they follow the same culture as S.A. For example, studies were conducted in Oman about the knowledge and skills of PHC staff related to diabetic education (Abdulhadi et al., 2007; Abdulhadi et al., 2013), and a study in Egypt aimed to improve the health education skills of nurses working in MCH centres so as to enhance women’s awareness regarding family planning (Mersal & Keshk, 2012). It was surprising that the participants did not select the competency about “using a range of learning activities and flexibility in teaching strategies”. This outcome could be related to the traditional system of education in S.A., which lacks critical thinking and flexibility in subjects (Alhammad, 2010).

Regarding increasing the knowledge of community presence, the participants did not agree with “identifying health conditions and health disparities found in major demographic groups and geographic areas”. Because S.A. is the 13th largest country in the world by area, with 2,149,690 square kilometres including 13 regions (Royal Embassy of Saudi Arabia/ Discover Saudi Arabia, 2007), it may be difficult for PHC nurses to recognise health issues within the country due to the long distance for transportation between the cities. As stated earlier by Rehmani et al. (2013), the majority of the Eastern Region population, where this research study was undertaken, presented public health challenges related to obesity and being overweight. Therefore, PHC nurses did not select this item as a competency in health

education. However, obesity is an essential issue that has to be considered to improve the health of the population.

## **Skills**

Three items about experts' skills did not reach consensus in the first round. The first competency was "the ability to adapt communications according to patients' needs". However, this result was in contrast with the literature that emphasized the view of patients in the health-education process within the PHC setting. For instance, Abdulhadi et al. (2007) included patients in a study to assess patient-provider interaction from the perspectives of type 2 diabetes patients in Muscat. They concluded that patients identified some weaknesses regarding patient-provider communications and the inability of patients to participate in medical dialogue. Another example was a study conducted in AlKhubar where the research took place to identify health education needs for pregnant women visiting PHC centres. The women identified that there was inadequate information given to them by PHC staff regarding pregnancy related problems, and this was important to improve perinatal outcome (Rasheed & AlSowielem, 2003).

It was also surprising that participants did not agree on the competency related to "the ability to use interpersonal communication skills in health education". This result contrasted with contemporary literature globally and locally, which acknowledged the importance of improving communication within the health-education process. Several studies have reported communication problems as a barrier in the health-education process. For example, Abdulhadi et al. (2007) noticed some weaknesses in patient-provider communication, including: an unfriendly welcome, interruption of consultation privacy, poor attention and eye contact, lack of encouragement and motivation for patients to ask questions. Additionally, the language differences can be a hindrance in the communication process, as reported by Abdulhadi et al. (2013), particularly in S.A. where there is a visible and high percentage of foreign nurses. In a census of Saudi nurses who worked in the MOH, there were 82,948 across the country in 2012 (MOH, 2012). This was due to the shortage of nurses in S.A., according to Miligi and Selim (2014) in S.A. the shortage of nursing was 30% in 2010. The last competency related to skills that did not reach consensus among the participants was "the ability to analyse the influence of family, peers, culture, media, technology and other factors on individuals' health behaviour". This competency had an indirect mention in the literature,

which held that improving this skill could be achieved through training and education courses. It had been stated that education and training could improve the skills of the PHC nurses in relation to health education (Mersal & Keshk, 2012; Perry et al., 2008; Torres et al., 2010). This finding in the first round was in contrast with the outcomes from the workshop; however, it was supported as a workshop outcome in the next rounds.

## **Attitudes**

In the ‘attitudes’ section, the participants did not agree on professional development behaviours that were concerned with “classroom management techniques, e.g. social skills training and environmental modification” and “using interactive counselling methods with patients and their families in order to cater for the needs of patients, e.g. role plays or cooperative group activities”. This finding contradicted the literature where there was a general consensus about maintaining a suitable environment for health education and this could be a barrier in the process of delivering effective health education. Bergh et al. (2012) found that a private room was the most suitable setting for PHC nurses to provide health education. Abdulhadi et al. (2013) explored organisational barriers to effective health education, such as workload and a lack of teamwork. These findings within the Delphi study were rather disappointing as the participants in the workshop supported these attitudes and behaviours in health education. The results from the workshop could be as a result of discussion and interaction with others. In general, therefore, it would appear that discussion, group working, and interactive education methods are positive influences on the health education provided to patients within the PHC setting.

## **Second round discussion**

The questionnaire used in the second round was based on the results of the first round, but it was more structured than the first one (Appendix 5). It retained eleven items that did not reach consensus in the first round. The second-round questionnaire was distributed to the experts and the response rate was 100%, which indicated excellent cooperation and interest from the participants in the study. The experts ranked or rated items according to their perceived importance within the health-education process by PHC nurses. The items were ranked from (1) to (5) using a Likert scale by selecting *strongly agree*, *agree*, *neutral*,

*disagree or strongly disagree*. The second-round questionnaire distributed consisted of three sections: The first was *knowledge*, which included two items for topics, three items for education style, one item for community presence; the second was *skills*, which included three items; and the third was *attitudes*, which included two items for receiving professional development. A total of 11 items in the questionnaire, six items about experts' knowledge, skills and attitudes reached consensus in the second round and thus five items were retained for the third round. This will be discussed in detail in the following section.

## **Items that reached consensus**

### **Knowledge**

Six competencies reached consensus in the second round, and these items were removed from the Delphi questionnaire for the third round. Out of the six competencies, three items were about experts' knowledge, one topic, one education style and one community presence. The participants' responses concurred with the literature regarding the importance of increasing knowledge about mental health disorders. PHC nurses play a major role in the referral process for patients with mental disorders, as well as in the health-education process, as supported by Koenig et al. (2014). This result was also supported by a study conducted by Al-Khathami and Ogbeide (2002) in PHC centres in Al-Kharj (S.A.), which reported an 18 per cent rate of "minor mental illness" among 609 outpatients. This reinforces the importance of including knowledge of mental health disorders in the PHC setting. In addition, the competency relating to education style, "using a range of learning and education activities and flexibility in the use of teaching strategies" reached consensus in this round. A possible explanation for this result could be that participants considered that using different educational activities and being flexible with patients would improve the health-education process and therefore improve the health of people and the quality of care provided. Further, the participants confirmed the importance of "identifying the health conditions and health disparities found in major demographic groups and geographic areas" as a health education competency for PHC nurses. An explanation may be that participants were aware that their previous selection had to be changed if PHC nurses knowledge of different health issues in S.A. is to be improved.

### **Skills**

There were two items related to experts' skills that reached consensus in the second round. The participants indicated their acceptance of "the ability to analyse the influence of family, peers, culture, media, technology and other factors on individuals' health behaviour" and "the ability to use interpersonal communication skills in health education". These results did confirm the broader view of training courses and communication skills in health-education practice within the PHC setting as stated by Abdulhadi et al. (2007), Mersal & Keshk (2012), Perry et al. (2008), and Torres et al. (2010).

### **Attitudes**

The participants agreed about the competence of "classroom management techniques and environmental modification". This result was based upon the participants' awareness that this attitude was accepted in the health-education process. Having a suitable environment has been found to be an essential issue for the health-education process within the PHC setting (Abdulhadi et al. 2013; Bergh et al., 2012).

It was clear that participants in the second round agreed about some items that did not reach consensus in the first round. This could be due to the Likert scale which had been used in the second round, as it provided more response selections for the participants and fewer items than the first round, so there was more time spent considering how to respond in the second round. However, the iterative process of repeating the questionnaire could have been boring for some participants, as they responded to the same items, albeit using a different scale.

### **Items that did not reach consensus**

#### **Knowledge**

Five items did not reach the consensus level in the second round and these items were retained for the third round. Three items were about experts' knowledge, one topic, and two education styles. The participants did not agree about the topic of "knowledge of alcohol or other drugs use and associated risks". Interestingly, this result did not confirm the importance of increased knowledge about alcohol and other drugs for PHC nurses in the literature. The reason for this selection was possibly due to the culture of people in S.A. and their adherence to Islam and its teaching. However, drinking alcohol is an issue in S.A., although there is a lack of data about this topic, as explained earlier in this chapter.

Although there are advantages from drama and role-playing in the delivery of information as explained by Barney and Shea (2007), the participants did not accept “the use of drama and stirring up emotions in health education”. They viewed “using drama” as an old method to deliver information to recipients and thought it was more effective to use modern technology means, as they explained in the workshop. In addition, the participants did not select the competency of “awareness of the importance of using outside resources”, because they possibly believed that S.A. is a country that follows Islam and has a special culture, which makes it unsuitable to follow policies from outside. It is, however, vital to exchange ideas and interact with other contexts in health-education practice within the PHC setting, e.g. the studies in Oman to examine the skills and knowledge of PHC staff in diabetic education (Abdulhadi et al. 2007, 2013).

### **Skills**

One item about experts’ skills did not reach consensus in the second round, which was “the ability to adapt communications according to patients’ needs”. The participants did not favour this competency much, due to the language barrier, as not all clients who visited the PHCCs can speak Arabic or English. This can be a hindrance to the health education process. However, this skill showed a significant improvement in health education when it involved patients and examination of health-education needs in a PHC setting. Various studies have used patients as a sample to address their needs for their studies about health education in a PHC setting (Abdulhadi et al., 2007; Mersal & Keshk, 2012; Rasheed & AlSowielem, 2003).

### **Attitudes**

In the attitudes section, the participants did not agree on professional development behaviour that was concerned with using interactive counselling methods with patients and their families, e.g. role-plays or cooperative group activities. This finding was different to the literature, where there was evidence that collaboration between staff and people in the community was a positive influence in the health-education process (Al-Khaldi, 2008; Al-Omar & Bin Saeed, 1998; Rasheed & Al-Sowielem, 2003).



## **Third round discussion**

The questionnaire used in the third round was based on the results of the second round (Appendix 6). It retained five items that did not reach consensus in the second round. The participants selected from two choices, *agree* or *disagree*. The third round questionnaire consisted of three sections: the first was *knowledge*, which included one item for a topic, two items for education style; the second was *skills*, which included one item; and the third was *attitudes*, which included one item for receiving professional development. Out of the five items, two items reached consensus in the third round, which was the end stage of Delphi, and three items remained and did not reach consensus from the participants. This will be discussed in detail in the following section.

### **Items that reached consensus**

#### **Skills**

In the last stage of the Delphi process, the participants finally agreed on “the ability to adapt communications according to patient need” as a competency for health-education practice within the PHC setting. This finding indicated that participants believed that improving communication had a positive influence on the health-education process. Their agreement could be a result from the iteration process that enabled the participants to think several times and carefully before selecting the answers. This competency was also reported in the literature, globally and locally (Abdulhadi et al., 2007; Douglas et al., 2006; Torres et al., 2010).

#### **Attitudes**

In the last stage of Delphi, the participants agreed on “using interactive counselling methods with the patients and their families” as being essential for the health-education process within the PHC setting. This result showed that PHC nurses recognised how collaboration with patients improved the health-education process, as stated by Al-Khaldi (2008) and Rasheed & Al-Sowielem (2003).

## **Items that did not reach consensus**

### **Knowledge**

Three items about experts' knowledge, one topic and two education styles, did not reach consensus in the last stage of Delphi. The participants did not agree on increasing their knowledge about "alcohol or other drugs use" as a topic or the "use of drama and stirring up emotions in health education and awareness of the importance of using outside resources" as points of education style. This result showed that PHC nurses working in S.A. are influenced by Saudi culture that prevents alcohol and other drug consumption within the country, however people can still drink and bring drugs to the country, as explained earlier in this chapter. Furthermore, using drama as an education style was agreed by the workshop participants, who preferred and suggested the introduction of technology (social media: WhatsApp & Twitter) for delivery of the health-education process. However, the findings from the current study (Delphi questionnaire) did not support the outcomes from the workshop, which considered "drinking alcohol" to be a vital topic needed to increase knowledge about alcohol and the "use of drama in health education" as a method of education style in the PHC setting. Another important finding was that one group of participants in the workshop drew conclusions consistent with the Delphi findings related to "awareness of the importance of using outside resources as points of education style" as an item not to be included in health education competencies for PHC nurses. In contrast, four other groups saw this item as important for health education. According to the groups, the nurses could exchange ideas and experience with other contexts.

## **Summary discussion for the three rounds**

The maximum response rates of 100 per cent in the three rounds demonstrated the great level of interest in and the need for a comprehensive list of health-education items for PHC nurses. The level of consensus was equal to 60 per cent or more using frequency descriptive analysis. The results of this three-part Delphi study constituted a list of health-education competencies for PHC nurses in S.A. A consensus was clearly achieved on 45 required competencies relating to knowledge, skills and attitudes regarding health education. However, consensus was not reached on "knowledge about alcohol or other drugs use", "knowledge about the use drama in health education", and "knowledge about the awareness and importance of using outside resources". What is surprising is that nurses in S.A. are working within the culture

and roles in the country which ban alcohol drinking and consuming. This can be considered as underlying reason for not selecting this competency as important within the health education competencies. Further, nurses try to exchange the old fashion of education by drama to introduce new methods, which will improve health education process to the patients. This suggests that PHC nurses value their health-education role, which will improve people's health by them changing their behaviours. Assuming that PHC nurses demonstrate an appreciation of the significance of the identified competencies, the next step is for them to get ideas about the practicalities of these competencies that were identified through the workshop run by the researcher.

The involvement of service users in a workshop and explaining that they are vital in the process of healthcare as they are recipients was beneficial. In addition, the combination of nurses and service users in a workshop was valuable and reflects positively on the healthcare provided, including health education to the community. This kind of combination was uncommon in the context of S.A., which gives the service users the chance to express their ideas and feelings regarding their health services. It is interesting to note that the outcomes of the workshop concur with the results from this research, as they agreed on the same 45 competencies. Further, the participants in the workshop agreed upon two items that did not reach consensus through Delphi, which were: "increase knowledge about alcohol or other drug use, and use of drama in the health education process". This variation in the results between Delphi and the workshop could be due to the nature of the workshop that is considered more interactive and enabled discussion with other groups. Therefore, the workshop that was conducted was able to validate the results of the research. Moreover, the service users showed a desire to introduce new technology in the health-education process, such as Twitter. This result was contemporary with Department of Health in UK (2009) which confirmed that improvements in technology and health care have allowed many people to live healthier and longer than would have been in previous generation (DOH, 2009). Furthermore, the nurses confirmed that learning must continue via education and training courses. This result was consistent with previous studies that highlighted the efficiency of continuing education for PHC nurses (Abdulahadi et al., 2007; Mersal & Keshk 2012; Perry et al., 2008; Torres et al., 2010).

## **Conclusion**

This chapter has presented explanations of the results from the three rounds of Delphi. This Delphi study has produced 48 health-education competencies for PHC nurses in S.A. The experts reached a consensus on 45 of these competency items, which covered knowledge, skills and attitudes essential for their role. Although the current list of competencies will need refining and modifying through further consolidation with relevant stakeholders, this study represents the first development of health-education competencies for PHC nurses.

The forty-five (45) competency items that reached consensus through Delphi are aligned with and supported by the literature globally and nationally. Further, barriers that hinder the health education process, such as communication, workload, lack of payment, and insufficient educational resources have been considered in exploring the health education competencies for PHC nurses. This also was reported during the workshop. These findings suggest that in general, there is a need to introduce educational courses that are concerned with the process of the health education.

The relevance of the culture and Islam is clearly supported by the current finding which did not reach consensus through Delphi “increase knowledge about alcohol or other drug use”. PHC nurses follow the regulations and rules in S.A. that prohibit alcohol or other drug consumptions. Regarding “use of drama” as education style, was agreed in the workshop. However, the participants in the workshop recommended the introduction of modern technology in order to facilitate the process of health education. The study has found that generally health education was viewed as an essential issue, and was considered important to promote health and prevent disease within the community. The following chapter will analyse the conclusions that can be drawn from this study.

## **Chapter Nine: Conclusion**

### **Introduction**

The final chapter is concerned with conclusions and recommendations resulting from the study to identify the health education competencies required of PHC nurses in SA. First, the research contribution to existing nursing knowledge is considered. Then, the chapter discusses and identifies the limitations of research design and implementation. The chapter then illuminates the research implications for clinical nursing practice, nursing policy and nursing research. Recommendations for future research are made and the research dissemination strategy is identified. Finally, the researcher reflects upon the research experience and the lessons learned from this study; as in most Delphi techniques, the researcher plays a major role in the process of study.

### **The research contribution to existing knowledge**

The literature review concluded that there is a significant body of Saudi literature concerning the importance of health education provided by PHC nurses. Examples include studies by Al-Khalidi, 2008; Alnaif & Alghanim, 2009; Rasheed & Al-Sowielem, 2003; and Yousuf et al., 2012. Although these Saudi studies have been focused upon specific health problems, for example, Yousuf et al., (2012) identified the importance of health education to females who visited the PHCCs, in Jeddah, in S.A. regarding breast cancer and its prevention methods. The present research is notable and timely as the first study of its kind that focuses upon the competencies of PHC nurses regarding health education in S.A. The results have the potential to inform MOH planning in Saudi Arabia, as regards nurse education and training, the nursing practice environment of PHC nursing and future evaluation, to further develop the role of the PHC nurse as a health educator, and to ensure that PHC nurses are competent in health-education practices. For example, the research should provide employers with a foundation for succession planning, and help PHC nurses themselves to identify ways of obtaining support and mentorship for their roles. The General Directorate of Health Affairs in Al-Dammam could also use these results as an initial step towards the development of a national competency and curriculum framework for PHC nurses' practice, following piloting and evaluation of the health education competencies for PHC nurses. Therefore, the competencies presented in this research can be considered as a reference point and an instrument for PHC

nursing education, regulation and practice, as a baseline for future development and evaluation.

In addition, this research provides a framework for the exploration of PHC competencies using Delphi techniques. This methodology was appropriate for the research aim, using three rounds, and the results have shown that it is possible to reach a consensus view using the Delphi method. As a result, forty-five health education competency items found consensus, which identified knowledge, skills, and attitude competencies together with methods of acquiring and assessing the competencies. A further three items did not reach consensus in this study, and these are, increased knowledge about “alcohol or other drugs use” as a topic, the “use of drama and stirring up emotions in health education”, and “awareness of the importance of using outside resources” as points of education style. Possibly the three statements that did not reach consensus illuminate social taboos, local values and beliefs that impact upon health education in practice, and ultimately the health and well being of the population. Potentially, the three statements that did not reach consensus illustrate areas for future research exploration, to better identify views about alcohol consumption within S.A., or explore the most effective education styles to facilitate the process of health education. The three competencies that did not reach consensus did achieve positive feedback from the interactive service users and nurse workshop.

According to Keeney et al., (2010), Delphi techniques lack suitable guidelines for the researcher to follow. It is clear that conducting research using Delphi techniques requires special skills of the researcher, such as administrative and analytical skills, and the need to maintain a relationship with participants. In this respect it would appear that the Delphi technique requires different research approaches and skills rather than other research methodologies, for example, using the computer to enter the data after each round. Maintaining a relationship with the participants who have different views and opinions, leads to an increase in their responses and increased participant interest in the study. Therefore, the advantages of the present research are enhanced because the participants assisted in the building of comprehensive health education competencies for PHC nurses.

Furthermore, this study has built upon identification of health education competencies for PHC nurses to include practical application, through the interactive workshop conducted following the results of the Delphi study. This workshop was an innovative research activity in S.A, and it is believed that this is the first time that service users and nurses have worked

in groups to consider research implications and their application to practice. The discussion within the group of the workshop and with others adds to the body of the research as identified by Minogue and Girdlestone (2010), who supported the positive influence of service users in health research. This involvement will improve the quality of health care provided to people, including health education within the PHC setting. Further, the outcomes from this workshop identified that continuing education and training courses are important for PHC nurses in order to improve their knowledge, skills and attitudes regarding health education; as is stated in the literature (Amin et al., 2009; Jahan et al., 2006; Midhet & Sharaf, 2011) , that health education is important to improve health and prevent diseases.

### **Limitations of the current study**

The high level of consensus among the participants in the three rounds adds to the validity of the study (Keeney et al., 2006). However, there are some limitations in this research. It is possible that more competencies would have reached consensus in this Delphi study if there had been more rounds. Because of the sample size, 60, and data collection from only one geographical area, which is the Eastern Region of S.A., the findings should be generalised with caution and it may be interpreted by some that there is selection bias (Polit & Beck, 2008). The data was collected from the PHCCs which were accessible to the researcher, as some of the PHCCs are far from where the researcher lived.

Further, there was a clear justification for conducting this study in the three main cities in the Eastern Region (Al-Dammam, Al-Khubar & Al-Ahsa), as the researcher lived close to these cities, and had established networks due to their academic professional role. In addition the population of the Eastern Region of S.A. is focused upon the three cities, in keeping with the urbanisation evident in S.A. (Rehmani et al., 2013). However, the results from this study in the Eastern Region are helpful and have to be considered in improving the practice of health education within the Saudi context, though it is possible that other locations might have led to different results. Further, nurses' managers in PHC centres distributed the questionnaire as there are strict communication protocols related to research conducted within the MOH sectors. The protocols and the need to inform nurse managers of the research had the potential to allow the managers to apply some pressure (intentional or unintentional) on the staff to complete the questionnaire (Day, 2005). Yet in the results, there was no pressure noticed by the staff from their managers. However, in some PHCCs, the managers distributed the

questionnaire in the presence of the researcher. It is important to get approval from the MOH before starting data collection, in order to disseminate the questionnaire through formal channels with the assistance from nurses' managers. Whilst the nurses' managers might have had some indications about who participated in the study, no information was given to them regarding the data provided by individual participants.

The PHC centres included in this study were entirely organised and funded by the MOH. Having other PHC centres, either private or related to the National Guard Hospitals, might also have generated different results and this would be a potential area for future research related to PHC nursing and health education competencies. Inclusion of PHC nurses from the private sector might have added more variety to the responses to the study. In addition, the results could be different if a modified Delphi technique was conducted where there was a chance for experts to meet and identify a list of potential health education competencies for PHC nurses. However, according to Boulkedid et al. (2011, p. 6), a physical meeting of experts "contradicts one of the basic rules of the Delphi procedure", as the basic rule is to maintain anonymity among the participants, though a future study might benefit from face-to-face interaction. In this instance face to face interaction was achieved through the interactive workshop and its outcomes. However, repeating this study after one year or more with the same experts may result in different competencies reaching consensus. This can be due to the level of education of the participants, or possibly if the participants attended conferences or workshop between the rounds, this may influence any future response.

Furthermore, there were no qualitative comments from the participants. The qualitative comments area on the data collection tool gave participants opportunity to add comments that could help the researcher to better understand the context of the competencies and impeding barriers to adopting these competencies. This leads the researcher to think about the incorporation of other tools for data collection in future research on the topic, such as focus groups, alongside the Delphi questionnaires.

Despite these limitations, the study has provided valuable findings, including the identification of health education competencies for PHC nurses and the study contributed significantly to the body of research knowledge regarding health education provided by PHC nurses. All the health professionals who work within the PHC setting, including nurses, GPs,



health educators and physicians, may benefit from this research, in ways to provide effective health education sessions to the patients and people.

## **Implications for clinical nursing practice and policy**

This study has identified that PHC nurses need to learn different skills within nurse education that will lead to an improved health-education process. It has been noted that PHC nurses require continuing education and training courses, as stated in the previous literature (Baxter et al., 2013; Mersal & Keshk, 2012; Perry et al., 2008). These courses should include: the skills to provide health education, the key public health challenges and topics that nurses have to be aware of, and to act upon within health education practice, and the different methods of interaction with people, for example discussion and reflection methods that increase the interaction between people. Expert and qualified professionals can provide these courses, as specialised post qualifying courses for PHC nurses, in order to keep health education as an important aspect in the PHCCs. This is because PHCCs can be considered as the first contact for patients, and people in the community prior to referral to the secondary and tertiary levels of health care. Additionally, these courses can be provided as well to all registered nurses as Whitehead (2001) and Shaw (1999) identified that health education is a part of nursing performance despite the settings for nursing work.

Therefore, it seems crucial for stakeholders, nurses and nurse managers, to consider the workplace conditions as well as barriers that hinder health education in practice. The barriers can be from patients, staff or the organisation itself. Abdulhadi et al. (2013) identified some of the barriers, such as workload, poor patient commitment, and communication problems. The details of health education barriers have been explained in Chapter Three. For example, the health education process will be valuable and achieve its objectives, if staff demonstrate their interest in this task. Also, when the environment is suitable, such as a private room and availability of educational materials health education may achieve its objectives. Such enabling factors are potentially rewarding for staff, enhancing their effectiveness and encouraging them to educate patients.

Conducting a workshop or any activity following the research has the potential to encourage workshop participants to apply the ideas generated into practice. This study has found that using technology by social media, such as Twitter or WhatsApp, to deliver health education

has the potential to be effective and flexible for the community. Service users within the interactive workshop advocated the use of technologies, and this is an important finding for the study. An implication of this is the possibility to design useable apps about specific health problems and send messages of health education through this application. For example in the Eastern Region where, there are high rates of obesity as explained before, it will be useful to design apps with the cooperation from IT researchers and PHC staff. Further, other health problems such as, diabetes, hypertension, and problems during pregnancy have to be considered as well. In the UK for example, Light and Ormandy (2011) organised a digital campaign in cooperation with the Lesbian and Gay Foundation in order to engage women in same sex relationships to undertake cervical screening. This campaign used a mobile phone app which sent promotional videos and an evaluation mechanism to improve its performance.

The involvement of the service users with a combination of PHC nurses in the workshop was effective and successful as they added to the research results. Therefore, the interactive workshop enabled achievement of the research aim and objectives. Overall, the workshop strengths included the skills of the researcher, in term of guidance and facilitation of the discussion and interaction between the groups. This is an important development as in S.A. service user involvement does not normally take place.

The results from this study support the new Saudi Strategic Plan for Primary Healthcare Nursing in S.A. The Plan confirms staff competence in all nursing-care practice, including health education (MOH, 2012). Therefore, these results represent the first step towards developing a set of nationally agreed health education competencies for PHC nurses. These competencies were refined and checked with nurses' managers, staff and service users by conducting a workshop. So, the next step is to develop an action plan and recommendations for piloting these competencies in the post-doctoral period. This can be achieved with the PHC nurses and nurses' managers. Therefore, there will be a post qualifying educational course for PHC nurses, which will teach the health education competencies.

However, the MOH is responsible for acquiring and developing these competencies for their PHC nurses. Further, it is essential to highlight that these competencies need to be assessed and updated frequently, as new health issues develop in S.A. Also, according to the background and level of education/experience of the PHC nurse, these competencies have to be assessed on an ongoing basis.

## **Implications for nursing research**

The advantages of the Delphi technique were discussed previously. For this research, the selection of Delphi was an ideal choice, and should be a point of strength for this research. It has provided this research with exposure to varying views and allowed the exploration of judgements (Linstone & Turoff, 1975). This helped the researcher to work and manage the three rounds of Delphi. This research describes an exploration of health-education competencies for PHC nurses in S.A. In addition, it sought ideas about the practical application of these competencies through a workshop in collaboration between PHC nurses, nurses' managers and service users.

## **Recommendations from this research**

This research has explored 45 health education competencies for PHC nurses in S.A. by including expert participants in three rounds of Delphi. The recommendations from this research will be divided in different aspects, in the following section.

### **➤ Recommendations for policy makers**

- In order to keep up-to-date with wider changes along with health concerns, primary healthcare policies have to be updated regularly and checked frequently in order to ascertain the importance of health education within the PHC setting. This could draw upon the MOH strategies that are regularly updated. However, more specific focus and attention on health education practice are needed. This can be achieved by presentations as to how health education improves health outcomes and decreases complications for diseases when they have occurred.
- It would be interesting to assess the work performance of PHC nurses and ensure staff development through providing training courses regarding boosting the performance of health education within the PHC setting. This was a main outcome from the workshop. These courses have to be evaluated and updated frequently in order to accomplish their aims.
- Greater efforts are needed to ensure the practice of health education within the PHC setting by frequently assessing and evaluating the practice of health education by PHC nurses as this was an outcome from the workshop. This can be achieved by comparing the health education practice in S.A. with other

countries such as the UK, where practice nurses play an important role in health education via education classes and consultation clinics. It is further recommended to develop a 'peer evaluation' that PHC nurses evaluate the performance of health education for their colleagues.

- Considerably more attention and care will required to determine the suitable environmental factors and managerial support which will enhance the process of health education, including building of the PHCCs and educational materials, as discussed by Bergh et al. (2012) that the practice of PHC nurses as health educators is influenced by organizational and managerial support.

➤ **Recommendations for nurses managers**

- It is suggested that providing training courses for the staff will be effective to improve their skills and knowledge of health education, as Mersal and Keshk (2012) found that intervention programmes for nurses in MCH centres enhanced the performance and knowledge for them regarding health education. This can be done through developing courses run by expert nurses and nurse managers who participated in this study, and the course content will be based upon the research findings. Therefore, health education performance by PHC nurses will enhanced.
- It is vital to indicate the barriers to providing health education and try to solve these issues. Douglas et al. (2006) listed some barriers that impede health education processes within the PHC setting such as: lack of extra payment and rewards, lack of time, and insufficient educational materials. The nurse managers have to overcome these struggles by different means: reward the staff (increase payment), provide educational materials, and improve the environment by providing private room for health education sessions.
- It is essential to maintain good communication and relationships with the health professionals from a different faculty to promote teamwork. Abdulhadi et al. (2013) mentioned the importance of teamwork when providing health education as this can be an obstacle which has to be resolved. It is important to schedule regular meetings with all health professionals in the PHCCs in order to exchange ideas and share experiences regarding health education. This meeting can take place in the PHCC itself or on-line via skype.

- Rewards and incentives should be provided for PHC nurses who have successfully incorporated health education into their role, through regular assessment and supervision of staff. Rewarding could include the provision of study scholarships, conference attendance, or increased payment.
- It has been noted to provide an appropriate environment to conduct health education sessions, as this has an influence upon patient nurse interaction.

#### ➤ **Recommendations for PHC nurses**

- The PHC nurses need to consider providing health education to the patients visiting PHC centres, as one of their roles. This is clear in the Saudi strategic plan for PHC nursing, which recommends competence for all nursing activities within the PHC setting including health education. This can be achieved by ensuring health education practice is included in the job descriptions of PHC nurses in S.A.
- The PHC nurses have to enrol in courses that improve their skills and enhance competence in health education. These courses concerned with the practice of health education may be within the gulf countries or globally. In future, after this study is published, there will be a post-qualifying course for PHC nurses that are concerned with health education.
- The PHC nurses have to be aware about the cultural differences between the patients, as S.A. is a multi-cultural country. This is a critical issue as S. A. is a multicultural country, which has nine million individuals from overseas (World Population Review, 2016). The PHC nurses have to respect all cultures and deal with the patients as humans without discrimination, keeping in mind the individual's needs.
- The PHC nurses have to listen and respond carefully to patients' needs, to be aware of verbal and nonverbal communication, as Abdulhadi et al. (2007) confirmed the importance of communication during health education through eye contact, attention, and encouraging patients to ask questions.

#### ➤ **Recommendations for service users**

- It is advised to support service user involvement in research activity. Williamson et al. (2007) pointed out the importance of involving service users within the research process starting from proposal of the topics and ending

with writing reports about the findings. Service user involvement is recommended for future research in order to have a positive influence and achieve the research aims.

- It is meaningful to have the contributions of service users with groups of health professionals.
- It is suggested to keep the outcomes from the service users in hand when developing health policies as well as curriculum planning in the nursing colleges, in keeping with the experience of (NICE) (2013) when involving service users and the public in NICE guidance.

➤ **Further research** is needed to fully comprehend the issues raised by this research study. Areas to take forward include:

- Health education competencies require development for more specialised health issues, such as smoking, asthma and safety precautions. This would build on the current study, which has sought to identify core health education competencies, prior to development of more specialised knowledge and skills.
- The effects of the main barriers in the process of health education, such as lack of time, inappropriate environment, and lack of encouragement and motivation.
- The influence of communication skills on health education, such as poor eye contact and an unfriendly welcome.
- The role of PHC nurses in supporting and providing health education for people with chronic diseases, such as diabetes and hypertension.
- The attitudes, beliefs and behaviours of PHC nurses towards health education.
- Views and attitudes of PHC nurses regarding increasing their knowledge of health education for alcohol or other drug use, and dealing with patients who complain of mental health disorders.
- Exploration of PHC nurses' knowledge about different methods of education styles, including use of drama and using outside resources.
- The strategic development of continuing education courses for PHC nurses concerning health education and evaluation of the impact of these courses.

## Dissemination Plan

This research has investigated the health education provided by PHC nurses in S.A, and has sought to identify the health education competencies required by PHC nurses. The results will be disseminated in the following ways:

- A copy of the results will be sent to the Saudi MOH in order to raise awareness of the health education competencies and to consider the future roles of PHC nurses. After that, the researcher will request a meeting with the director of the General Directorate of Health Affairs in Dammam, and other cities in S.A. in order to give a seminar about the results and to consider how the research results can be developed into an action plan for practice.
- An oral presentation with a brief description of the study and the results will be given at the University of Dammam and to the General Directorate of Nursing in the Eastern Region.
- Publication about health education competencies for PHC nurses in S.A. in professional peer-reviewed national and international journals, for example, *The Journal of Nursing Education* and *Journal of Family and Community Medicine (JFCM)*, which is the official journal of the Saudi Society of Family and Community Medicine.
- Publication about “Using Delphi to identify health education competencies for PHC nurses in S.A” and “Service User Involvement in a Health Research, the Case of Saudi Arabia”. These two papers can be published in *PubMed* Journal, which has literature from *MEDLINE*, *life science journals*, and online books. Also, this journal is a peer-reviewed international journal.
- The findings will be available on the University of Salford website.
- International conferences, for example, the ICN, and Gulf Cooperation Council conferences.
- National conferences; at the University of Dammam, and future working groups for regional impact.
- An interest group will be established with seminars on a quarterly basis in order to update information regarding the practice of health education by PHC nurses.

## **Reflection**

Being a lecturer at the University of Dammam and a member of the Community Nursing Course staff, and now a PhD candidate, all these factors supported my role on my PhD journey. However, studying abroad in a western country in a different language was acceptable, as I completed my Master Degrees in Australia. Adaptation to the weather and environment in UK was a significant change in my life. Living with my family in the UK was a motivation and support for my life during the process of PhD studies. On the other hand, it was stressful as my husband was studying for a PhD as well. Nevertheless, both of us tried to overcome the struggles of combining study with home life, as we shared the duties and responsibilities, in particular caring for two daughters. I think my experience in the PhD journey motivates my daughters in ways to be more patient and positive thinking. Further, it may push them forward to think about higher education abroad.

The selection of the topic resulted from my interest in issues related to health education and PHC nursing and my favourite practical area to work in is the PHC centre. I believe that diseases and health breakdown can be prevented through the provision of competent health education to clients visiting PHC centres. This interest will motivate me to engage in post-doctoral work, to pilot and evaluate these results in practice. Additionally, reading literature regarding health education within the PHC setting supported my selection of this topic. Having reviewed and critically appraised the literature I have enhanced my skills in literature searching, and that skill will improve my academic role as well.

Data collection started, when I arrived in Saudi Arabia in May 2014. I found that the majority of PHC nurses possessed a diploma certificate. This issue led me to amend my ethical application to the University of Salford in order to include these nurses as potential participants. Actually, it took three weeks to obtain approval for this change. Thereafter, I began my data collection during Ramadan, which is a holy month for Muslims, and so all the nurses were fasting, and there was a decrease in working hours in Saudi Arabia. It was not easy to manage the distribution of the questionnaires and their collection after completion. Also, many nurses were on holiday, which led me to visit more PHC centres in the Eastern region. The gap between each round varied from two to three weeks, in which time SPSS was used to develop the next questionnaire. The lesson learned in this case is to ask and try to have more information about the setting and the sample of the research before getting there and starting the data collection procedure. Moreover, for future researchers using Delphi



techniques, it is good to try to plan and maintain the time between the rounds and have flexible skills to overcome the struggles which may be faced during the research process.

I was aware that considering the importance of the researcher relationship to the participants would enhance the response rate, and I had an excellent mutual relationship with the nurses' managers and the participants themselves. This was due to my academic role at University of Dammam, as I got out into clinical nursing practice with the nursing students. In my study, I knew the participants and their names were in the questionnaires, as I had to keep them for subsequent rounds, and so during data entry into a computer they were coded. However, the conditions of confidentiality were explained to them and that their working situation would not be affected. From this issue, confidence is an essential issue to work through and maintain professional relationships during the research, whilst ensuring high levels of ethical integrity.

Additionally, the workshop, which was held seven months after data collection, was a key strength of the study and my personal skills as a researcher. It improved my communication skills with a group of different people from different backgrounds, as I was the one who guided this workshop along with an assistant. This helped me organise the workshop, set its aims and consider what would be the expected outcomes with special consideration of the factors that might influence the workshop process. Finally, as a researcher, I have to update these competencies and develop an action plan and recommendations for piloting and evaluating in the post-doctoral period.

## **Conclusion**

This chapter is the last one in this thesis and it has highlighted the contribution of this research to existing knowledge. It has also explained the limitations of this research, as it was conducted in a special context, where there is specific culture that has to be followed. In addition, the implications for practice, policy and nursing research have been identified. It also provides recommendations in vital aspects of health education and PHC nursing. There is a plan for dissemination of the results which has been explained. Lastly, reflection on the research process, in particular the process of data collection, has been presented.

This research extends our knowledge of the role of PHC nurses regarding health education. It provides a list of competencies, which have been identified by PHC nurses themselves via a Delphi technique. Therefore, it can be assumed that this research will serve as a basis for future studies about PHC nurses and health education.

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## **Appendices**

## **Appendix 1**

### **The letter for the nurse managers of PHC Centres**

Dear Sir/Madam

My name is Nagla AlSaleh. I am a lecturer in the College of Nursing at University of Dammam. Currently, I am a PhD student at Salford University in the UK. I am undertaking a PhD on the role of Primary Health Care Nurses. Saudi Arabia is at present undergoing a change in healthcare and it is vital that information concerning health, how to maintain and increase it, is available for the whole population. There is a huge increase in diseases such as diabetes and cardiac disease, and unhealthy life styles, which could be lessened through increased knowledge and skill. My study is focusing on the knowledge, skills, and attitudes required for qualified primary health care nurses to better undertake health education within their practice settings in Saudi Arabia. The outcome of the study will be the identifying of an evidence based competencies to underpin the delivery of health education by nurses, in the primary health care setting.

I would like to book an appointment with you to discuss my study research and data collection process in depth, as I need your help and support for recruiting the expert participants to be involved in my study.

Yours Sincerely

Mrs Nagla Al Saleh

**If you need further discussion and clarification please contact:**

**The researcher: Nagla AlSaleh   [n.s.m.alsaleh@edu.salford.ac.uk](mailto:n.s.m.alsaleh@edu.salford.ac.uk).  
Mobile# 0555867043**

**The supervisor: Dr Nancy-Jane Smith   [n.j.smith@salford.ac.uk](mailto:n.j.smith@salford.ac.uk)**

## **Appendix 2**

### **Information sheet**

**1. Study title:** Identifying Health Education Competencies for Primary Health Care Nurses in Saudi Arabia: A Delphi Consensus Study.

#### **2. Invitation paragraph**

You are being invited to take part in a research study. Before you decide whether or not to participate it is important for you to understand why the research is being done and what it will involve. Please read the following information carefully. Please ask us if there is anything that is not clear or if you would like more information and please take your time to decide whether you wish to join this study.

#### **3. What is the purpose of the study?**

The primary health care nurses constitute a growing proportion of the public health-care workforce in Saudi Arabia, playing an important and very significant role in the provision and improvement of health care. Also, health education is critical within PHC services because it is the way of delivering information, developing skills, and exploring beliefs and values to facilitate changes in health behaviour. More than ever, there is a need to identify and determine the competency of PHC nurses to address health education needs for the patients/clients in the context of Saudi Arabia.

#### **4. Why have I been chosen?**

You have been asked to take part because you have been identified as an expert in the PHC Nursing. The research study aims to identify the competencies required of PHC nurses by asking nurses themselves. If these groups do not have input or ownership of the competencies then it will be difficult to enhance health education in practice.

#### **5. Do I have to take part?**

It is up to you to decide whether or not to take part and there is no obligation. If you decide to take part you will be given this information sheet to keep and you will be asked to sign a consent form. If you decide to take part, and then withdraw, you are free to withdraw at any time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect your employment or service provision in any way.

#### **6. What will happen to me if I take part?**

If you agree to take part in the study you will be asked in the first instance to complete a consent form and return this to the researcher. This research will be carried out using the Delphi technique consisting of three questionnaires (known as rounds) aimed to achieve consensus. With your permission the questionnaires will be delivered to you. After receipt of the enclosed consent form,



you will shortly receive the first questionnaire. Simple and specific instructions will be provided for each questionnaire.

The amount of time necessary for completion of each questionnaire (or rounds) will vary with each panelist; but should range from approximately 15–30 minutes for Round 1, and 10–20 minutes for Round 2 and Round 3. There is no right or wrong answers to the questions. This study is seeking your expert opinion.

## **7. What if something goes wrong?**

We are not aware of any complications or risks that could arise from you taking part in this study. However, if you decide to take part in the study you will be given written information detailing the names and telephone number of the organizations to contact should you have any complaints or difficulties with any aspect of the study.

## **8. What happens when the research study ends?**

The results of this project will be used to identify competencies for nurses to be able to educate the patients in primary health care settings in Saudi Arabia. The findings may be sent for publication in a professional journal and/or may be presented at conferences.

## **9. What are the possible benefits of taking part?**

We cannot promise the study will help you as an individual, but the information we obtain might help improve the future research direction for the primary health care nursing professions in Saudi Arabia.

## **10. Who has reviewed the study?**

The study has been approved by the College of Health and Social Care Research Ethics at University of Salford and Ministry of Health (General Directorate of Nursing in Saudi Arabia Ethics Committee).

## **The following points are important for you to remember:**

1. Your participation is entirely voluntary.
2. You may withdraw from the study at any time.
3. You will remain anonymous to the other participants (or experts) throughout this Delphi study and only the researchers will be able to identify your specific answers.
4. All records are confidential. Your name will be recorded on the consent form and on the questionnaire and only the researcher will have this information.

All information will be handled, and stored in accordance with the requirements of Data Protection. This information will only be available to members of the research team.

5. Any information that you provide will be confidential and when the results of the study are reported, you will not be identifiable in the findings.

6. You will only have to complete the consent form once; return of completed Delphi rounds implies your consent to participate.

If you wish to contact someone for further information regarding this study you can contact:

Nagla AlSaleh Email: [n.s.m.alsaleh@edu.salford.ac.uk](mailto:n.s.m.alsaleh@edu.salford.ac.uk).

The supervisor: Dr Nancy-Jane Smith [n.j.smith@salford.ac.uk](mailto:n.j.smith@salford.ac.uk)

**Appendix 3**  
**Research Participant Consent Form**  
**PHC Nurses**

**Title of Project:** Identifying Health Education Competencies for Primary Health Care Nurse in Saudi Arabia: A Delphi Consensus Study.

**Name of Researcher:** Nagla AlSaleh

- I confirm that I have read and understood the information sheet for the above study and what my contribution will be.

<b>Yes</b>	<b>No</b>
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- I have been given the opportunity to ask questions (face to face, and via e-mail)

<b>Yes</b>	<b>No</b>
------------	-----------

- I agree to take part in the interview

<b>Yes</b>	<b>No</b>	<b>NA</b>
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- I agree to the interview being tape recorded

<b>Yes</b>	<b>No</b>	<b>NA</b>
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- I agree to digital images being taken during the research exercises

<b>Yes</b>	<b>No</b>	<b>NA</b>
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- I understand that my participation is voluntary and that I can withdraw from the research at any time without giving any reason, my filling of the questionnaire and related comments will be destroyed if I decided to withdraw

<b>Yes</b>	<b>No</b>
------------	-----------

- I understand how the researcher will use my responses, who will see them and how the data will be stored.

<b>Yes</b>	<b>No</b>
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- I agree that the findings of data analysis only will be used for publications

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- **I agree to take part in the above study**

<b>Yes</b>	<b>No</b>
------------	-----------

Name of participant .....

Signature .....

Date .....

Name of researcher taking consent .....

## Appendix 4

### First Round Questionnaire

Thank you for taking the time to complete this questionnaire, which will be used to help identify competencies for nurses who engage in health education interventions in the Primary Health Care Setting.

**Primary Health Care** has been described by the World Health Organization as critical healthcare accessible to families and individuals in the community, with the country able to afford to maintain such services (WHO, 1978).

**Competencies** had been identified by Waston et al. (2002, p. 422) as “a more integrated and holistic approach”. This approach isolates competency as the unification of a range of general attributes such as knowledge, skills, and attitudes specifically to address the needs of the practitioner (Irvine, 2005).

**Health education in PHC** is a planned educational intervention centred on individuals’ capacity to voluntarily care for their own health, or the health of others, which has been examined by Ross & Mackenzie (1996).

**Skills** are defined as the ability to do something well (O\*NET Resource Centre, 2010).

**Knowledge** means facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject

**Attitudes means:** a settled way of thinking or feeling about something

I would be appreciative if you could answer the following questions so that I may develop this understanding. Please be reassured that there are no right or wrong answers I am just interested in your opinion. Please do not discuss the questionnaire or possible answers with other research participants or your colleagues, as this will influence the results of the study. Please answer the questions independently, and remember there are no right or wrong answers, and your replies are confidential.

Please complete the questionnaire using the information below and return to me or to the nurses’ managers in the envelope provided.

**If you need further discussion and clarification please contact:**

**The researcher: Nagla AlSaleh [n.s.m.alsaleh@edu.salford.ac.uk](mailto:n.s.m.alsaleh@edu.salford.ac.uk).**

**The supervisor: Dr Nancy-Jane Smith [n.j.smith@salford.ac.uk](mailto:n.j.smith@salford.ac.uk)**

## (Cont..) The Questionnaire

**The First Round** of the Delphi survey is questionnaire based and will consider your opinions as to what competencies primary health care nurses need to undertake health education within their professional practice.

1. **Name:**
2. **Telephone:**
3. **Email address:**
4. **Age:**
5. **Nationality:** Saudi      Non-Saudi
6. **Years of experience:**
7. **Place of work:**
8. **Qualification:**

**Please put (x) mark inside the box below**

A.	<b>Knowledge:</b> In your opinion, what underpinning knowledge do PHC nurses need in order to competently provide health education?	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>
<b>Topics to increase knowledge</b>				
1	Knowledge of alcohol or other drug use, and associated risks, prevention through explanation and education about the health benefits of avoiding drinking or taking dangerous drugs.			
2	Knowledge of asthma and prevention, management of risks, side effects (it is important to know the signs and symptoms of asthma and how to deal with this disease to prevent its complications, identify dry cough, shortness of breath as symptoms of asthma, and then manage the patient with bronchodilators, & oxygen therapy. Explore that palpitation as one of the main side effects of bronchodilators).			
3	Knowledge about diabetes, highlighting the process of the disease and its complications, (Know that diabetes is a metabolic disorder, and sugar levels need to be maintained). The nurses should be able to appreciate that nephropathy; neuropathy and retinopathy are among the major			

	complications of uncontrolled diabetes. Nurses should be able to counsel the patients about diet restriction and sugar control.			
4	Knowledge of mental health disorders-e.g. depression & schizophrenia, their influence on the patients and their family. The nurses should support the patients and their families, and should know when these patients need to be referred to the psychiatrist.			
5	Knowledge of epilepsy/seizure, management of medication, safety, management of epilepsy. The nurses should have the knowledge to differentiate between febrile seizures in children and epilepsy. The nurses should have the knowledge about the different treatment regimens of both the disorders.			
6	Food allergies-e.g. G6PD,			
7	Counsel the patients by taking preventive measures including discarding needles after use, & transfusing safe blood for Human immunodeficiency virus (HIV) AIDS prevention.			
8	Knowledge about epidemics of Infectious diseases, and their prevention by using the available vaccines (e.g., influenza -flu-prevention).			
9	Injury prevention by recognise safety precautions and using first aid.			
10	Nutrition and appropriate dietary behaviour, to decrease the incidence of obesity and other nutritional problems.			
11	Physical activity and fitness regime to maintain healthy life style.			
12	Parameters of women's health including reproductive health, nutrition, family planning, antenatal care, clean and safe delivery, post-natal care of women and child, breastfeeding, education etc.			
13	Smoking prevention through effective techniques including mass awareness about the association of smoking with various cancers, diabetes, and heart diseases. Nurses should be able to provide alternative solutions to smoking including nicotine gums and patches.			
<b>Education Style</b>				

14	Using a range of learning and education activities and flexibility in the use of teaching strategies to enhance effective health education always accepting cultural beliefs.			
15	The use of drama and stirring emotions in health education in order to simplify the purpose of the health education session: role play and simulation.			
16	Awareness of the importance of using outside resources to achieve the objectives of the health education session such as comparing the health issue in different places rather than Saudi Arabia.			
17	Application of such thinking strategies as mind-mapping in health education to help distinguish differences in patients' comprehension, due to their education background.			
18	Using self-skills in teaching to develop forward thinking in patients such as linking the issues of the health to real life.			
19	Using posters and modern technology to attract the attention of patients.			
<b>Community presence</b>				
20	Identify health conditions and health disparities found in major demographic groups and geographic areas.			
21	Identify existing health resources and access to public services available to the community.			
22	Establish standards for conducting needs assessment to work hard to achieve these standards.			
23	Determine the geographical boundaries of service areas, in particular rural areas where low health is prevalent.			
24	Be aware of health beliefs and views on behalf of the influence of Islam on the health.			
25	Knows the community as a whole establishes and maintains links with it.			

**Please add any comments relating to knowledge in the box below. e.g.: how this knowledge should be taught and assessed or potential barriers to its acquisition...and/or use of this knowledge in the primary health care setting.**



B.	<b>Skills:</b> what skills from the following do you feel PHC nurses need to provide competently health education?	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>
26	The ability to analyse the influence of family, peers, culture, media, technology, and other factors on individuals' health behaviour-e.g. advertisement and offers in the markets.			
27	The ability to access valid information and products and services to enhance health-e.g. using of pamphlet and poster, use of internet and other media facilities.			
28	The ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.			
29	The ability to adapt communications according to patient need.			
30	Using of decision-making skills to enhance health (management of the health education session by preplanning, implementation, & evaluation/can recognise and respond to the patient's differences).			
31	Using goal-setting skills to enhance health (can set realistic achievable goals with the patients/families).			
32	Active listening to the feedback of the health education session from the patients.			
33	Practicing health-enhancing behaviours to avoid or reduce risks by discuss with patients some examples from life. Such as practice physical exercise to maintain healthy life style.			
34	Supporting personal, family, and community health-e.g. contribution in the health campaign.			
35	Using communication skills, talking to patient and families to convey information effectively.			

**Please add any comments relating to skills in the box below. e.g.: how these skills should be taught and assessed or potential barriers to skill acquisition, and/or use of skills in the primary health care setting.**

--

C.	<b>Attitudes:</b> what attitudes and behaviours do you feel PHC nurses need to provide competently health education?	<b>Yes</b>	<b>No</b>	<b>Uncertain</b>
<b>Receive professional development</b>				
36	Educate patients of various cultural backgrounds, without discrimination, as it may change their health behaviours. Demonstrate cultural awareness and sensitivity to individual needs.			
37	Using interactive counseling methods with the patients and their families, in order to cater the needs of the patients- (e.g., role plays or cooperative group activities).			
38	Encouraging family or community involvement which may introduce new ideas of provision of health care so as to improve the process of health education on behalf of the nurses.			
39	Educate the patients about the skills which would improve their health behaviour.			
40	Classroom management techniques (e.g., social skills training, & environmental modification).			
41	Assessing or evaluating nurses in health education.			
<b>Professional preparation</b>				
42	Deal in an unbiased manner with each patient's problems, keeping in mind the individual's needs.			
43	Improved interaction with other health care providers in the PHC centre (doctor, nutritionist, & lab technician).			
44	Has a positive attitude toward the role of health education in the community as a whole, understand how prevention is better than cure.			

45	Empowerment which means the ability to educate the patients by preparing and develop their teaching/educational skills.			
46	Respect other opinions and view points as the community involves multi-cultural backgrounds of people.			
47	Working according to ethical values and principles (follow the policies and regulations to the PHC centre where is the place of the work).			
48	Willingness to engage in staff development by attending courses, and conferences related to health education.			

**Please add any comments relating to PHC nurses' role as a health educator. e.g.: how should this role be taught and assessed or potential barriers to attitudes acquisition...and the importance of this role in the primary health care setting.**

--

## Appendix 5

### Second Round Questionnaire

**The Second Round** of the Delphi survey is questionnaire to rank or rate the items according to the perceived importance within the health education process by PHC nurses. The items will be ranked from (1) to (5) using a Likert scale by selecting (*strongly agree, agree, neutral, disagree & strongly disagree*).

1. **Name:**
2. **Telephone:**
3. **Email address:**
4. **Age:**
5. **Nationality:** Saudi      Non-Saudi
6. **Years of experience:**
7. **Place of Work:**
8. **Qualification:**

**Please put (x) mark inside the box below**

A.	<b>Knowledge:</b> In your opinion, what underpinning knowledge do PHC nurses need in order to competently provide health education?	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>Topics to increase knowledge</b>						
1	Knowledge of alcohol or other drug use, and associated risks, prevention through explanation and education about the health benefits of avoiding drinking or taking dangerous drugs.					
2	Knowledge of mental health disorders-e.g. depression & schizophrenia, their influence on the patients and their family. The nurses should support the patients and their families, and					

	should know when these patients need to be referred to the psychiatrist.					
<b>Education Style</b>						
3	Using a range of learning and education activities and flexibility in the use of teaching strategies to enhance effective health education always accepting cultural beliefs.					
4	The use of drama and stirring emotions in health education in order to simplify the purpose of the health education session: role play and simulation.					
5	Awareness of the importance of using outside resources to achieve the objectives of the health education session such as comparing the health issue in different places rather than Saudi Arabia.					
<b>Community presence</b>						
6	Identify health conditions and health disparities found in major demographic groups and geographic areas.					

<b>B.</b>	<b>Skills:</b> what skills from the following do you feel PHC nurses need to provide competently health education?	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
7	The ability to analyse the influence of family, peers, culture, media, technology, and					

	other factors on individuals' health behaviour-e.g. advertisement and offers in the markets.					
8	The ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.					
9	The ability to adapt communications according to patient need.					

C.	<b>Attitudes:</b> what attitudes and behaviours do you feel PHC nurses need to provide competently health education?	<b>Strongly Agree</b>	<b>Agree</b>	<b>Neutral</b>	<b>Strongly Disagree</b>	<b>Disagree</b>
<b>Receive professional development</b>						
10	Using interactive counseling methods with the patients and their families, in order to cater the needs of the patients- (e.g., role plays or cooperative group activities).					
11	Classroom management techniques (e.g., social skills training, & environmental modification).					

Please add any comments relating to PHC nurses' role as a health educator. e.g.: how should this role be taught and assessed or potential barriers to the previous items acquisition...and the importance of this role in the primary health care setting.

## Appendix 6

### Third Round Questionnaire

**The Third Round** of the Delphi survey is questionnaire will consider your opinions regarding agree or disagree the following items to be included in the competencies primary health care nurses need to undertake health education within their professional practice.

1. Name:
2. Telephone:
3. Email address:
4. Age:
5. Nationality: Saudi      Non-Saudi
6. Years of experience:
7. Place of Work:
8. Qualification:

**Please put (x) mark inside the box below**

A.	<b>Knowledge:</b> In your opinion, what underpinning knowledge do PHC nurses need in order to competently provide health education?	<b>Agree</b>	<b>Disagree</b>
	<b>Topics to increase knowledge</b>		
1	Knowledge of alcohol or other drug use, and associated risks, prevention through explanation and education about the health benefits of avoiding drinking or taking dangerous drugs.		
<b>Education Style</b>			
2	The use of drama and stirring emotions in health education in order to simplify the purpose of the health education session: role play and simulation.		
3	Awareness of the importance of using outside resources to achieve the objectives of the health education session such as comparing the health issue in different places rather than Saudi Arabia.		

B.	<b>Skills: what skills from the following do you feel PHC nurses need to provide competently health education?</b>	<b>Agree</b>	<b>Disagree</b>
4	The ability to adapt communications according to patient need.		
C.	<b>Attitudes: what attitudes and behaviours do you feel PHC nurses need to provide competently health education?</b>	<b>Agree</b>	<b>Disagree</b>
<b>Receive professional development</b>			
5	Using interactive counseling methods with the patients and their families, in order to cater the needs of the patients- (e.g., role plays or cooperative group activities).		

Please add any comments relating to PHC nurses' role as a health educator. e.g.: how should this role be taught and assessed or potential barriers to the previous items acquisition...and the importance of this role in the primary health care setting.



## Appendices 7 and 8

### Ethical forms



Research, Innovation and Academic  
Engagement Ethical Approval Panel

College of Health & Social Care  
AD 101 Allerton Building  
University of Salford  
M6 6PU

T +44(0)161 295 7016  
r.shuttleworth@salford.ac.uk

[www.salford.ac.uk/](http://www.salford.ac.uk/)

19 May 2014

Dear Nagla,

**RE: ETHICS APPLICATION HSCR14/30 – Developing a competency framework to underpin the primary health care nurse's role as a health educator in Saudi Arabia: a Delphi study**

Based on the information you provided, I am pleased to inform you that application HSCR14/30 has been approved.

If there are any changes to the project and/ or its methodology, please inform the Panel as soon as possible.

Yours sincerely,

*Rachel Shuttleworth*

Rachel Shuttleworth  
College Support Officer (R&I)

الرقم - ٢٨٢٨١٥٧١٢٧  
التاريخ ١٥/٥/٢٠١٤  
للمرفقات

وزارة الصحة  
المديرية العامة للشؤون الصحية بالمنطقة الشرقية  
General Directorate of Health Affairs in Eastern Province  
Ministry of Health  
700 0873336  
أسعة عامة بالشرقية

هاتف 038060330 فاكس 038061304

من	مساعد المدير العام للصحة العامة بالنيابة بالمنطقة الشرقية	د. نواف بن عبدالله العتيبي
الى	مدير المراكز الصحية بقطاع الدمام/الخبر/القطيف مدير المستشفى والمراكز الصحية بصقوى/راس تنورة	المهترمين
مودة الى	ولسقة لجنة البحوث بإدارة الصحة العامة	
الموضوع	تسهيل مهمة لإجراء دراسة	

السلام عليكم ورحمة الله وبركاته  
بناء على موافقة منسقة البحوث بإدارة الصحة العامة على الطلب المقدم من المتعش في المملكة المتحدة لبرنامج الدكتوراه / نجل صالحي الصالح وموضوع الرسالة (( وضع الكفالات اللازمة لمرضى الرعاية الصحية الأولية للتمكين من التتقيف الصحي ))  
عليه وحيث أن الفئة المستهدفة في عينه الدراسة هي الفئة التمريضية نأمل منكم تسهيل مهمتها لديكم.

ولكم طيب تحياتي وتقديري ..

التوجيه	التوجيه الداخلي
المدير الطبي	تسهيل مهمته
تسهيل مهمته	تسهيل مهمته

طبعة... نواف

## **Appendix 9**

### **Package of PHC nurses and nurses' managers (Workshop)**

#### **A. Information sheet for nurses**

**1. Study title:** Identify Health Education Competencies for Primary Health Care (PHC) Nurses in Saudi Arabia. A Delphi Consensus Study.

#### **2. Invitation paragraph**

You are being invited to take part in the workshop. Before you decide whether or not to participate it is important for you to understand why the workshop is being done and what it will involve. Please read the following information carefully. Please ask us if there is anything that is not clear or if you would like more information and please take your time to decide whether you wish to join this workshop.

#### **3. What is the purpose of the workshop?**

The workshop will be concerned with practical application.

For example, the interactive workshop will be used to develop an action plan and a series of recommendations, in order to pilot, and revise the competencies further. The piloting will take place in the post-doctoral period, however the action plan and recommendations will comprise part of the original contribution to knowledge within the thesis, and ultimately it will improve the quality of health care.

#### **4. Why have I been chosen?**

You have been asked to take part because you have been identified as having a qualification in PHC Nursing as a nurse's manager. Your contribution as an expert in this field will support and improve the quality of health care by discuss the results from the three rounds of Delphi and test it in a practical way.

#### **5. Do I have to take part?**

It is up to you to decide whether to take part and there is no obligation. If you decide to take part, you will be given this information sheet to keep and you will be asked to sign a consent form. If you decide to take part, and then withdraw, you are free to withdraw at any

time without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect your employment or service provision in any way

## **6. What will happen to me if I take part?**

If you agree to take part in the workshop, you will be asked in the first instance to complete a consent form and return this to the researcher. This workshop will be carried out at the General Directorate of Health Affairs in Dammam. With your contribution in the workshop as a policy maker and staff nurse may influence and improve the practical application of the results from the three Delphi questionnaires, which build up the competencies for PHC nurse to practice health education.

## **7. What if something goes wrong?**

We are not aware of any complications or risks that could arise from you taking part in this workshop. However, if you decide to take part in the workshop you will be given written information detailing the names and telephone number of the researcher.

## **8. What happens when the workshop ends?**

The outcomes of this workshop will be considered as recommendations and suggestions of the practical application of the competencies of the PHC nurses to practice health education.

## **9. Who has reviewed the study?**

The study has been approved by the College of Health and Social Care Research Ethics at University of Salford and Ministry of Health (General Directorate of Nursing in Saudi Arabia Ethics Committee.

**If you need further discussion and clarification please contact:**

**The researcher: Nagla AlSaleh [n.s.m.alsaleh@edu.salford.ac.uk](mailto:n.s.m.alsaleh@edu.salford.ac.uk).**

**The supervisor: Dr Nancy-Jane Smith [n.j.smith@salford.ac.uk](mailto:n.j.smith@salford.ac.uk)**

## B. Research Participant Consent Form

### Nurses

This workshop is followed the study titled “Identify Health Education Competencies for Primary Health Care (PHC) Nurses in Saudi Arabia. A Delphi Consensus Study”.

**Name of Researcher:** Nagla AlSaleh

- I confirm that I have read and understood the information sheet for the workshop and what my contribution will be.

<b>Yes</b>	<b>No</b>
------------	-----------

- I have been given the opportunity to ask questions (face to face, and via e-mail)

<b>Yes</b>	<b>No</b>
------------	-----------

- I agree to take part in the interview

<b>Yes</b>	<b>No</b>	<b>NA</b>
------------	-----------	-----------

- I agree to the interview being tape recorded

<b>Yes</b>	<b>No</b>	<b>NA</b>
------------	-----------	-----------

- I agree to digital images being taken during the research exercises

<b>Yes</b>	<b>No</b>	<b>NA</b>
------------	-----------	-----------

- I understand that my participation is voluntary and that I can withdraw from the workshop at any time without giving any reason.

<b>Yes</b>	<b>No</b>
------------	-----------

- I understand how the researcher will use my responses, who will see them and how the data will be stored.

<b>Yes</b>	<b>No</b>
------------	-----------

- I agree that the outcomes of the workshop will may used for publications

--	--

- I agree to take part in the above workshop

Yes	No
-----	----

Name of participant .....

Signature .....

Date .....

Name of Researcher Nagla AlSaleh  
n.s.m.alsaleh@edu.salford.ac.uk

## **Appendix 10**

### **Package of service user (workshop)**

#### **A. Information sheet for the service user**

My name is Nagla AlSaleh. I am a PhD student at Salford University in the UK. I am undertaking a PhD on the role of Primary Health Care Nurses. Saudi Arabia is at present undergoing a change in healthcare and it is vital that information concerning health, how to maintain and increase it, is available for the whole population. There is a huge increase in diseases such as diabetes and cardiac disease, and unhealthy life styles which could be lessened through increased knowledge and skill. My study is focusing on the vital role of Primary Health care nurses, how they can be supported and deliver health education within their setting. This will be finding through three rounds of Delphi questionnaires. The results will be piloted and tested in this workshop as a practical way.

#### **Objectives of the Workshop:**

5. To present Delphi findings which indicate the competencies required PHC nurses regarding health education.
6. To get ideas about the practicalities of the competencies, how to test them within PHC practice.
7. To share thoughts about how to introduce these competencies to participants in education, e.g. through Continuing Professional Development (CPD), the nursing curriculum and post-registration courses.
8. To get feedback from participants and consider new recommendations and comments from the participants.

#### **Please read the following points:**

\*Thank you for taking the time to participate in this workshop. The purpose is to develop an action plan and a series of recommendations, in order to pilot, and revise the competencies further.

\*The workshop will start from 10:00 a.m. to 01:00 p.m. The time could be changed if you have particular needs.

\* The workshop will take place at the General Directorate of Health Affairs in Dammam.

\*Your contribution in the workshop is vital to achieve the purpose of the study, and to improve your nursing health care experience in the Primary Health setting.

\*The study has been approved by the College of Health and Social Care Research Ethics at University of Salford and Ministry of Health (General Directorate of Nursing in Saudi Arabia Ethics Committee).

\*There will be nurses' managers and PHC nurses staff at the workshop too, and everyone who has an opinion will be heard and there will be a discussion on the points made.

\*Your travel expenses to and from the workshop will be paid.

\*There will be a lunch provided to the participants.

\*If you come to the workshop and decide it is not for you, you can leave at any time, and your health care will not be affected in any way.

**If you need further discussion and clarification please contact:**

**The researcher: Nagla AlSaleh   n.s.m.alsaleh@edu.salford.ac.uk.**

**The supervisor: Dr Nancy-Jane Smith   n.j.smith@salford.ac.uk**



## B. Consent form for service user (workshop)

This workshop is followed the study titled “Identify Health Education Competencies for Primary Health Care (PHC) Nurses in Saudi Arabia. A Delphi Consensus Study”.

**Name of Researcher:** Nagla AlSaleh

- I confirm that I have read and understood the information sheet for the workshop and what my contribution will be.

<b>Yes</b>	<b>No</b>
------------	-----------

- I have been given the opportunity to ask questions (face to face, and via e-mail)

<b>Yes</b>	<b>No</b>
------------	-----------

- I agree to take part in the interview

<b>Yes</b>	<b>No</b>	<b>NA</b>
------------	-----------	-----------

- I agree to the interview being tape recorded

<b>Yes</b>	<b>No</b>	<b>NA</b>
------------	-----------	-----------

- I agree to digital images being taken during the research exercises

<b>Yes</b>	<b>No</b>	<b>NA</b>
------------	-----------	-----------

- I understand that my participation is voluntary and that I can withdraw from the workshop at any time without giving any reason.

<b>Yes</b>	<b>No</b>
------------	-----------

- I understand how the researcher will use my responses, who will see them and how the data will be stored.

<b>Yes</b>	<b>No</b>
------------	-----------

- I agree that the outcomes of the workshop will may used for publications

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--	--

➤ **I agree to take part in the above workshop**

<b>Yes</b>	<b>No</b>
------------	-----------

Name of participant .....

Signature .....

Date .....

Name of researcher taking consent .....

Researcher's e-mail address    n.s.m.alsaleh@edu.salford.ac.uk

## Appendix 11

### Outcomes from the workshop

#### The first part

**Thank you for taking part in this workshop, please provide the information below**

Age:

Marital Status:

Level of Education:

Years of Experience:

#### The second part

**Please read the items below and write your opinions if they consider as important to include within the health education competencies for PHC nurses and how to introduce them to the practice work for PHC nurses**

A.	Skills:	Are they important	How to introduce them
1	The ability to analyse the influence of family, peers, culture, media, technology, and other factors on individuals' health behaviour-e.g. advertisement and offers in the markets.		
2	The ability to access valid information and products and services to enhance health-e.g. using of pamphlet and poster, use of internet and other media facilities.		
3	The ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.		
4	The ability to adapt communications according to patient need.		
5	Using of decision-making skills to enhance health (management of the health education session by preplanning, implementation, & evaluation/can recognise and respond to the patient's differences).		
6	Using goal-setting skills to enhance health (can set realistic achievable goals with the patients/families).		

7	Active listening to the feedback of the health education session from the patients.		
8	Practicing health-enhancing behaviours to avoid or reduce risks by discuss with patients some examples from life. Such as practice physical exercise to maintain healthy life style.		
9	Supporting personal, family, and community health-e.g. contribution in the health campaign.		
10	Using communication skills, talking to patient and families to convey information effectively.		

**Any more comments**

--

B.	Knowledge:	Are they important	How to introduce them
	<b>Topics to increase knowledge</b>		
11	Knowledge of alcohol or other drug use, and associated risks, prevention through explanation and education about the health benefits of avoiding drinking or taking dangerous drugs.		
12	Knowledge of asthma and prevention, management of risks, side effects (it is important to know the signs and symptoms of asthma and how to deal with this disease to prevent its complications, identify dry cough, shortness of breath as symptoms of asthma, and then manage the patient with bronchodilators, & oxygen therapy. Explore that palpitation as one of the main side effects of bronchodilators).		
13	Knowledge about diabetes, highlighting the process of the disease and its complications, (Know that diabetes is a metabolic disorder, and sugar levels need to be maintained). The nurses		

	should be able to appreciate that nephropathy; neuropathy and retinopathy are among the major complications of uncontrolled diabetes. Nurses should be able to counsel the patients about diet restriction and sugar control.		
14	Knowledge of mental health disorders-e.g. depression & schizophrenia, their influence on the patients and their family. The nurses should support the patients and their families, and should know when these patients need to be referred to the psychiatrist.		
15	Knowledge of epilepsy/seizure, management of medication, safety, management of epilepsy. The nurses should have the knowledge to differentiate between febrile seizures in children and epilepsy. The nurses should have the knowledge about the different treatment regimens of both the disorders.		
16	Food allergies-e.g. G6PD,		
17	Counsel the patients by taking preventive measures including discarding needles after use, & transfusing safe blood for Human immunodeficiency virus (HIV) AIDS prevention.		
18	Knowledge about epidemics of Infectious diseases, and their prevention by using the available vaccines (e.g., influenza -flu-prevention).		
19	Injury prevention by recognise safety precautions and using first aid.		
20	Nutrition and appropriate dietary behaviour, to decrease the incidence of obesity and other nutritional problems.		
21	Physical activity and fitness regime to maintain healthy life style.		
22	Parameters of women's health including reproductive health, nutrition, family planning, antenatal care, clean and safe delivery, post-natal care of women and child, breastfeeding, education etc.		
23	Smoking prevention through effective techniques including mass awareness about the association of smoking with various cancers, diabetes, and heart diseases. Nurses should be able to provide alternative solutions to smoking including nicotine gums and patches.		
<b>Education Style</b>			

24	Using a range of learning and education activities and flexibility in the use of teaching strategies to enhance effective health education always accepting cultural beliefs.		
25	The use of drama and stirring emotions in health education in order to simplify the purpose of the health education session: role play and simulation.		
26	Awareness of the importance of using outside resources to achieve the objectives of the health education session such as comparing the health issue in different places rather than Saudi Arabia.		
27	Application of such thinking strategies as mind-mapping in health education to help distinguish differences in patients' comprehension, due to their education background.		
28	Using self-skills in teaching to develop forward thinking in patients such as linking the issues of the health to real life.		
29	Using posters and modern technology to attract the attention of patients.		
<b>Community presence</b>			
30	Identify health conditions and health disparities found in major demographic groups and geographic areas.		
31	Identify existing health resources and access to public services available to the community.		
32	Establish standards for conducting needs assessment to work hard to achieve these standards.		
33	Determine the geographical boundaries of service areas, in particular rural areas where low health is prevalent.		
34	Be aware of health beliefs and views on behalf of the influence of Islam on the health.		
35	Knows the community as a whole establishes and maintains links with it.		

**Any more comments**

C.	Attitudes:	Are they important	How to introduce them
	<b>Receive professional development</b>		
36	Educate patients of various cultural backgrounds, without discrimination, as it may change their health behaviours. Demonstrate cultural awareness and sensitivity to individual needs.		
37	Using interactive counseling methods with the patients and their families, in order to cater the needs of the patients- (e.g., role plays or cooperative group activities).		
38	Encouraging family or community involvement which may introduce new ideas of provision of health care so as to improve the process of health education on behalf of the nurses.		
39	Educate the patients about the skills which would improve their health behaviour.		
40	Classroom management techniques (e.g., social skills training, & environmental modification).		
41	Assessing or evaluating nurses in health education.		
	<b>Professional preparation</b>		
42	Deal in an unbiased manner with each patient's problems, keeping in mind the individual's needs.		
43	Improved interaction with other health care providers in the PHC centre (doctor, nutritionist, & lab technician).		
44	Has a positive attitude toward the role of health education in the community as a whole, understand how prevention is better than cure.		
45	Empowerment which means the ability to educate the patients by preparing and develop their teaching/educational skills.		
46	Respect other opinions and view points as the community involves multi-cultural backgrounds of people.		
47	Working according to ethical values and principles (follow the policies and regulations to the PHC centre where is the place of the work).		

48	Willingness to engage in staff development by attending courses, and conferences related to health education.		
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**Any more comments**